

Combined Author Index

Abba, I.A.	229-238B		621-633B	Dai, S.L.	2597-2611A	Feng, C.R.	1145-1151A
Abbaschian, R.	1309-1314B		709-719B	Dantzig, J.A.	679-690B	Feng, H.-P.	2511-2521A
Abe, E.	19-26A	Brown, S.R.	2399-2406A	Dariel, M.P.	1341-1345A	Feufel, H.	807-813B
Acoff, V.L.	927-935A	Bryant, J.D.	2323-2332A	Darolia, R.	179-189A	Finch, J.A.	911-917B
Adachi, K.	2195-2203A	Bui, R.T.	1007-1019B	Das, D.K.	2173-2188A	Fischmeister, H.F.	205-216A
Agren, J.	1029-1034A		1199-1207B	Das, S.	527-540B	Fisher, A.	2261-2271A
Ahmad, N.	617-630A	Buono, V.T.L.	1415-1423A		2747-2752A	Flemings, M.C.	1707-1710A
Ahmadabadi, M.N.	2297-2306A	Bustnes, J.A.	1136-1139B	Dasgupta, R.	2747-2752A	Flintoff, J.G.	1955-1964A
Ahn, S.	1395-1404A	Butt, D.P.	2753-2760A	Dash, R.R.	1135-1136B	Foley, R.P.	289-298A
Ahzi, S.	191-203A	Cahoon, J.R.	1101-1111A	de Nora, V.	59-67B	Fonda, R.W.	2101-2110A
Aifantis, E.C.	2261-2271A	Cai, W.	1085-1096B	Dehosson, J.Th.M.	153-159A	Frage, N.	1341-1345A
Akselsen, O.M.	119-129A		1097-1106B	Delannay, F.	1727-1739A	Franks, L.L.	2707-2715A
Al-Jarrahi, J.A.	1711-1718A	Campbell, C.E.	205-210B		1895-1909A	Fredman, T.P.	651-659B
Alam, M.	95-104B	Carboneau, Y.	1759-1763A		2383-2393A	Fromm, E.	421-427B
Alexandrov, I.V.	2253-2260A	Carmichael, C.A.	1811-1820A	Delplancke, J.-L.	749-754B	Frommeyer, G.	1425-1430A
Allison, J.E.	2843-2854A	Carsley, J.E.	2261-2271A	Delplanque, J.-P.	2597-2611A	Fruhan, R.J.	935-938B
Almer, J.D.	2127-2136A	Casas, J.M.	899-909B	Deng, K.	1345-1356B	Frumin, N.	1341-1345A
An, S.U.	89-98A	Catalina, A.	1697-1706A	Denzer, D.K.	1191-1201A	Fu, C.L.	49-63A
Ando, T.	3047-3056A	Chakrabarti, A.K.	1175-1180B		1203-1210A	Fu, Q.	971-978B
Andrade, M.S.	1415-1423A	Chakraborty, A.	957-964A	Desbiolles, J.-L.	617-630A	Fuchs, G.E.	979-986B
Andres, C.	2843-2854A	Champion, Y.	2941-2949A	Deshpande, N.U.	1191-1201A	Fuh, B.C.	1457-1470A
Andrieu, E.	1643-1651A	Chan, K.S.	73-87A	Dessureault, Y.	591-601B	Fujii, K.	1161-1167A
Asahi, H.	1375-1381A	Chan, T.-Y.	2885-2892A	Detemple, K.	153-159A	Fukumasu, H.	263-277A
Asaki, Z.	331-338B	Chang, C.-C.	2511-2521A	Deura, T.N.	1167-1174B	Fukunaga, H.	1517-1524A
Ashbee, K.H.G.	7-18A	Chang, C.C.	907-909A	Dhindaw, B.K.	1691-1696A	Furukawa, M.	169-177A
Asthana, R.	1527-1530A	Chang, J.	1873-1882A	Dickson, J.I.	1697-1706A	2011-2013A	
Awsth, P.B.	1485-1498A	Chang, K.S.	1107-1115B	Dighe, M.D.	2687-2695A	2237-2243A	
Atteridge, D.G.	661-672B	Chang, L.	1371-1372B	Dimiduk, D.M.	905-907A	2245-2252A	
Awadallah, R.M.	1149-1156B	Chang, Y.A.	1911-1915A		7-18A	Furuya, Y.	307-314A
Awakura, Y.	1193-1198B		2447-2450A		37-47A	Gaballah, I.	729-737B
Ayer, R.	903-905A		2717-2726A		937-942A		1299-1308A
Azay, P.	1367-1374A	Chang, Y.W.	217-226A	Dippenaar, R.J.	147-153B	Galgali, R.K.	1175-1180B
Azimzadeh, S.	2455-2467A	Charette, A.	1199-1207B	Disam, J.	1719-1725A	Gall, K.	765-773A
Baczynski, J.	447-462A	Chatterjee, S.K.	2639-2642A	DiVenuti, A.G.	3047-3056A	Gamada, H.	1161-1167A
Baghalha, M.	945-952B	Chattopadhyay, S.K.	2639-2642A	Dmowski, W.	1805-1809A	Gan, Y.	1345-1356B
Bai, D.Q.	1021-1030B	Chaturvedi, M.C.	1101-1111A	Dogan, C.P.	2469-2475A	Ganesa-Illai, M.	1485-1498A
Bai, R.	989-1001A		1947-1954A	Doherty, K.J.	1821-1824A	Ganesan, R.	659-664A
Baker, T.N.	1383-1394A	Chawla, N.	2843-2854A	Dominguez, O.	2941-2949A	Ganesan, V.	807-813B
Balzer, M.	757-764A	Chekmarov, A.M.	293-295B	Donald, J.R.	317-323B	Gangloff, R.P.	1599-1613A
Barbante, G.G.	427-437A	Chen, C.-M.	1965-1972A	Doty, H.W.	2871-2884A	Gao, J.	1315-1319B
Barrett, D.J.	1405-1414A	Chen, C.H.	1811-1820A	Dowson, A.L.	1357-1369B	2497-2502A	
Bate, P.S.	1405-1414A	Chen, C.R.	2001-2009A	Doyle, C.	317-323B	Gao, M.	1145-1151A
Beaudoin, A.J.	2323-2332A	Chen, F.-R.	131-137A	Draper, S.L.	1527-1530A	Gao, W.	2957-2965A
Belashchenko, D.K.	105-110B	Chen, F.X.	1741-1747A	Dravid, V.P.	205-210B	Garg, A.	179-189A
Belton, G.R.	137-145B	Chen, J.	401-403A	Dreisinger, D.B.	1157-1166B	Gaskell, D.R.	843-853A
Belyakov, A.	935-938B	Chen, J.J.	563-567B	Driver, J.	2333-2344A	Gatica, J.E.	377-385A
Bengochea, R.	161-167A	Chen, J.K.	2049-2058A	Duan, Z.P.	685-692A	Gazzero, P.C.	275-281B
Berbon, P.B.	2957-2965A	Chen, S.-W.	1965-1972A	Dunand, D.C.	565-575A	Geltmacher, A.B.	775-780A
Beresford, J.R.	417-426A	Chen, S.W.	1947-1954A	DuPont, J.N.	2571-2582A	German, R.M.	659-664A
Bergeles, G.	169-177A	Chen, T.D.	563-567B		929-931B	857-866B	
Besson, J.	1321-1327B	Cheng, X.	53-58B		1449-1456A	1257-1263A	
Betancourt, T.	1643-1651A	Chidambaram, P.R.	327-337A		2785-2796A	1309-1317A	
Bewlay, B.P.	1677-1690A	Chihara, T.	755-761B	Dutta, B.	2797-2806A	2631-2638A	
Bharani, D.J.	2933-2939A	Chiou, W.-C.	1069-1076B		1319-1327A	3057-3067A	
Bhargava, N.R.M.R.	927-935A	Cho, I.S.	341-351A	Dutta, I.	1329-1339A	Ghosh, P.K.	1711-1718A
Bieler, T.R.	2835-2842A	Cho, K.	469-476A	Dutton, R.E.	2433-2446A	Giannuzzi, L.A.	2399-2406A
Bigot, J.	89-98A	Choi, C.S.	1873-1882A	Eagar, T.W.	1471-1475A	Gibson, E.D.	1181-1189A
Bingel, W.H.	2941-2949A	Choi, Y.-S.	1051-1056B	El Hazez, N.T.	315-325A	Godfrey, A.	919-925A
Biswas, A.	309-315B	Chung, C.H.	2121-2125A	Earthman, J.C.	957-964A	Goetz, R.L.	2307-2321A
Biswas, D.K.	377-385A	Chung, C.Y.	1865-1871A	Easton, D.S.	1811-1820A	Gokhale, A.A.	665-675A
Bjorklin, T.	205-210B	Chung, H.H.	2273-2283A	Edmonds, D.V.	2913-2924A	Gokhale, A.M.	237-244A
Blander, M.	493-495B	Chung, J.S.	2407-2424A	Edwards, G.R.	327-337A	905-907A	
Blenkinsop, P.A.	919-925A	Clavel, M.	1615-1628A	Egami, T.	1805-1809A	1191-1201A	
Bloyer, D.R.	2483-2496A	Cohen, A.	647-658A	Egner, E.	69-76B	1203-1210A	
Boland, F.	1727-1739A	Cohen, A.	493-495B	Egry, I.	1031-1035B	Gonzalez, B.M.	1415-1423A
Borggren, U.	205-210B	Combeau, H.	1249-1260B	El Hazez, N.T.	1149-1156B	González-Doncel, G.	485-492A
Bose, D.K.	309-315B	Conley, J.G.	1281-1288B	El-Eskandary, M.S.	1973-1981A	Gorey, N.M.	1499-1507A
Bose, S.K.	1853-1863A	Cornie, J.A.	1289-1295B	Elmer, J.W.	2761-2773A	Gotsis, C.	17-22B
Bourgeois, T.	1199-1207B	Cotton, J.D.	193-194A	Embury, J.D.	2613-2620A	Govindarajan, S.	1719-1725A
Bouris, D.	641-649B	Couture, A.	1759-1763A	Euh, K.	2543-2554A	Granato, A.V.	1837-1843A
Bowman, R.R.	493-505A	Cramb, A.W.	617-630A	Evans, J.W.	919-928B	Grange, M.	1643-1651A
Brady, B.H.	1227-1234B		935-938B		971-978B	Gray, N.B.	773-784B
Brennenstuhl, A.	387-396A	Cretegny, L.	1917-1922A		979-986B	993-1006B	
Briant, C.L.	757-764A	Curreri, P.A.	1619-1696A		1281-1288B	Griffo, A.	659-664A
Brimacombe, J.K.	2933-2939A		1697-1706A	Exner, H.E.	1289-1295B	Grinfeld, M.A.	937-942A
	611-620B	Dabrowski, L.	2903-2912A		361-367A	Gu, H.	507-512A
					1933-1939A	513-518A	
				Faderl, J.	631-646A	Gu, N.	1579-1583A
				Fang, H.S.	875-891A	Guigne, J.Y.	867-875B
					893-902A		877-887B
				Farkas, D.	951-955A		889-897B
					2655-2668A	Guillot, I.	1615-1628A
					1615-1628A	Guo, H.	513-518A
					1829-1835A	Guo, Q.	815-820B
					847-855B	Guo, R.Q.	519-525B

Guo, S.Q.	693-696A	Hu, C.-T.	1069-1076B	1697-1706A	2245-2252A
Gutierrez, I.	417-426A	Hu, D.	919-925A	Kagawa, Y.	693-696A
	1003-1015A	Hu, H.	911-917B	Kageyama, R.	919-928B
	2975-2986A	Hu, Z.Q.	404-408A	Kaibyshev, R.	161-167A
Hackenberg, R.E.	2087-2100A	Huang, J.	1249-1260B	Kainuma, R.	2225-2227A
Hahn, S.H.	223-228B	Huang, J.-H.	1047-1056A	Kajii, M.	1209-1218B
Hahn, Y.B.	1107-1115B	Huang, M.L.	3037-3046A	Kale, G.B.	309-315B
Haji-Sheikh, A.	1485-1498A	Huez, J.	1615-1628A	Kale, G.M.	31-38B
Hajra, J.P.	611-616A	Hunt, J.D.	751-755A	Kametani, H.	1261-1267B
Hall, I.W.	1347-1355A	Hwang, C.N.	696-700A	Kanno, A.	1161-1167A
Hamada, K.	1127-1135A	Hwang, K.S.	1509-1516A	Kanari, N.	729-737B
Hamaguchi, Y.	791-798A	Hwang, S.J.	2273-2283A	Kaneki, Y.	1299-1308A
Hamilton, C.H.	1211-1220A	Hwang, S.M.	2407-2424A	Kaner, O.	987-991B
Han, F.	1315-1319B	Hyatt, C.V.	1677-1690A	Kannan, K.	153-159A
	2497-2502A	Iguchi, M.	211-222B	Kaya, A.A.	1211-1220A
Han, K.S.	1983-1989A		569-575B	Karaman, I.	205-216A
Han, Q.	415-420B		755-761B	Karagoz, S.	427-437A
	751-755A		1209-1218B	Karma, A.	1457-1470A
Hanlon, D.N.	2727-2736A		1219-1225B	Kashiwaya, K.	987-991B
Hansen, E.M.	69-76B	Iino, M.	1017-1021A	Kashiwaya, Y.	763-771B
Hansen, J.G.R.	2855-2862A	Ikeda, K.	943-950A	Kawabata, R.	577-581B
Hansen, N.	2333-2344A	Ikeno, S.	1161-1167A	Kaya, A.A.	2913-2924A
Harada, H.	537-549A	Ikeuchi, S.	1169-1174A	Ke, W.	401-403A
Harlet, P.	2383-2393A	Ilegbusi, O.J.	211-222B	Kellgren, P.	205-210B
Harris, J.A.	773-784B	Imaiishi, M.	223-228B	Kemali, M.	1023-1028A
Hashida, T.	791-798A	Incropera, F.P.	843-853A	Kemori, N.	1329-1343B
Hassan, M.Y.	1149-1156B	Inoue, A.	1779-1793A	Kim, C.M.	397-401A
Hastaoglu, M.A.	229-238B		1811-1820A	Kim, D.-K.	1057-1069A
Hatano, T.	23-29B	Inoue, K.	1127-1135A	Kim, D.H.	1221-1235A
Hatta, N.	2829-2834A	Ipser, H.	807-813B	Kim, H.-D.	1441-1447A
Hawbolt, E.B.	611-620B	Irons, G.A.	77-83B	Kim, H.G.	583-590B
	621-633B		85-94B	Kim, J.K.	351-358A
	709-719B		785-791B	Kim, J.S.	217-226A
Hawley, M.	2753-2760A	Irwin, R.B.	2399-2406A	Kim, K.J.	469-476A
Hayes, P.C.	541-553B	Ishida, K.	2225-2227A	Kim, N.J.	2273-2283A
Haynes, M.J.	1599-1613A	Ishii, K.	987-991B	Kim, S.H.	2273-2283A
Hazzledine, P.M.	37-47A	Islamgaliev, R.K.	2253-2260A	Kim, S.S.	2583-2590A
	937-942A	Ito, K.	131-136B	Kim, T.-G.	1051-1056B
He, Y.	1795-1804A	Iuchi, K.	1299-1308A	King, Y.S.	3087-3095A
Heatherly, L.	1811-1820A	Iwanaj, S.	2245-2252A	King, J.S.	1593-1598A
Hecht, R.L.	2137-2145A	Iwahashi, Y.	2503-2510A	Kishi, T.	781-789A
Heckel, R.W.	325-329B	Iwasaki, H.	677-683A	Kiss, L.I.	1199-1207S
Hei, Z.	2477-2481A	Iwasawa, K.	411-414B	Kitagawa, S.	223-228B
Heinrich, J.C.	847-855B	Iwase, M.	577-581B	Kitamura, T.	2533-2542A
Helbert, A.L.	1615-1628A	Iza-Mendia, A.	2975-2986A	Kitsunai, Y.	1289-1298A
Hellmann, J.F.	1499-1507A	Jacob, K.T.	1241-1248B	Kivilahti, J.K.	2951-2956A
Hemker, K.J.	65-71A		1525-1527A	Kjelstrup, S.	69-76B
	99-104A		1545-1552A	Kleppa, O.J.	815-820B
Henein, H.	2613-2620A	Jacobs, G.	1031-1035B	Klueh, R.L.	1551-1558A
Henry, S.	2807-2817A	Jacobs, M.H.	1357-1369B	Kobayashi, T.	263-277A
Henshall, G.A.	1081-1091A	Jacobus, K.	765-773A	Kobayashi, Y.	1037-1042B
Her, Y.C.	2737-2746A	Jacques, P.	2383-2393A	Koch, C.C.	2285-2295A
Herfurth, G.	2775-2784A	Jahanshahi, S.	177-186B	Koh, P.T.L.	1329-1343B
Hertzberg, J.L.	1035-1046A		187-195B	Komatsu, H.	1169-1174A
Heuser, B.J.	1593-1598A	Jain, M.	527-535A	Kongoli, F.	591-601B
Higashi, K.	677-683A	Jak, E.	541-553B	Konno, T.J.	1973-1981A
Higuchi, K.-I.	351-360B	Jalanti, T.	617-630A	Korzekwa, D.A.	2323-2332A
Hill, M.A.	2753-2760A	Jansson, B.	163-176B	Koss, D.A.	775-780A
Hines, J.A.	191-203A	Jarry, P.	2807-2817A	Koul, A.K.	1499-1507A
Hino, M.	351-360B	Javermick, D.A.	327-337A	Kozarek, R.L.	2687-2695A
Hiraga, K.	1559-1563A	Jayaganthan, R.	611-616A	Kraft, T.	793-806B
Hirai, T.	1973-1981A	Jayaram, R.	1551-1558A		361-367A
Hirao, M.	2987-2993A	Jena, A.K.	2893-2902A		2447-2450A
Hirasawa, M.	739-747B	Jensen, J.A.	863-873A	Krane, M.J.M.	843-853A
Hirato, T.	1193-1198B	Jeong, W.C.	463-467A	Krauss, G.	289-298A
Hirth, J.P.	2033-2038A	Jha, A.K.	2747-2752A	Krishnamurthy, S.	1279-1288A
Hiskey, J.B.	53-58B	Jiang, H.G.	2469-2475A	Kroupa, A.	2049-2058A
Hlavacek, V.	1297-1307B	Jimenez, J.A.	1425-1430A	Kulkarni, N.S.	2221-2225A
Hoagland, R.G.	2033-2038A	Jin, W.	700-705A	Kumagai, T.	19-26A
Hoburg, J.F.	275-281B	Jin, Y.	2195-2203A	Kumar, R.	527-540B
Hodaj, F.	1367-1374A	Joguet, M.	439-446A	Kumar, S.	2147-2159A
Holden, T.M.	2967-2973A	Johnson, C.H.	1211-1220A	Kuo, K.H.	1565-1572A
Holt, R.A.	2967-2973A	Johnson, E.	367-376A	Kurtz, R.J.	2033-2038A
Honda, T.	1193-1198B	Johnson, J.L.	857-866B	Kusabiraki, K.	1169-1174A
Hong, C.P.	341-351A	Johnson, W.C.	2021-2032A	Kuwano, H.	791-798A
Hong, J.-H.	1441-1447A	Jonas, J.J.	447-462A	Kwon, H.	397-401A
Hong, K.T.	2221-2225A		989-1001A	Kyllo, A.K.	3087-3095A
Honores, S.	961-969B		1383-1394A		239-249B
Hopkins, J.A.	1137-1139A	Jones, J.W.	2843-2854A		251-259B
Horita, Z.	169-177A	Jones, W. K., Jr.	1281-1288B		261-268B
	2011-2013A	Jones, W.K., Jr.	1289-1295B	Ladriere, J.	2383-2393A
	2237-2243A	Jonsson, S.	361-370B	Lagally, M.G.	2111-2119A
	2245-2252A		371-384B	Lai, J.K.L.	1865-1871A
	2503-2510A	Jordan, C.E.	479-484B	Lai, Z.	119-129A
Horiya, T.	781-789A	Jorgensen, F.R.A.	485-492B	Laird, C.	507-512A
Horn, Q.C.	325-329B		773-784B		513-518A
Horsthemeyer, M.	905-907A	José-Yacamán, M.	993-1006B	Lam, C.W.H.	1865-1871A
Horton, J.A.	1811-1820A	Joshi, S.V.	713-725A	Lambert, J.M., Jr.	385-396B
Howe, J.M.	1585-1592A	Jung, J.Y.	2173-2188A	Langdon, T.G.	169-177A
Hozawa, M.	223-228B	Juretzko, F.R.	1395-1404A		2011-2013A
Hsu, C.-H.	2511-2521A		1691-1696A		2237-2243A

Lohoefer, G.	1031-1035B	889-897B	Panova, J.	951-955A	Romero, J.L.	1003-1015A
López, B.	417-426A	1719-1725A	Papangelakis, V.G.	945-952B	Rönkä, K.J.	2951-2956A
Lorenzen, L.	283-291B	899-909B		1021-1030B	Ross, D.K.	1023-1028A
Loreto, M.H.	919-925A	677-683A	Pardoen, T.	1895-1909A	Roy, G.G.	339-349B
Lowe, T.C.	2253-2260A	1249-1260B	Park, H.G.	1309-1314B	Roy, R.R.	931-935B
Lu, M.	99-104A	197-203B	Park, I.	2543-2554A	Ruano, O.A.	821-827B
Lu, Z.Z.	1093-1099A	411-414B	Park, K.-T.	1559-1563A	Ruiz, M.C.	485-492A
Luévano, A.J.	727-737A	1043-1049B	Park, W.-J.	1395-1404A	Ryu, S.H.	961-969B
Luggi, N.J.	2669-2677A	1235-1240B	Park, W.J.	477-483A	Saha, G.G.	1573-1578A
Luo, J.	673-678B	1209-1218B	Parthasarathy, T.A.	37-47A	Saha, G.G.	665-675A
Lynch, D.C.	298-300B	1181-1191B	Patil, R.	1241-1248B	Sahajwalla, V.	471-477B
Ma, D.	429-436B	237-244A	Patwardhan, A.K.	2147-2159A	Sahm, P.R.	1113-1119A
Ma, X.L.	1113-1119A	2819-2828A	Pedersen, A.S.	367-376A	San Marchi, C.	2819-2828A
Ma, Y.	1565-1572A	1121-1125A	Pelosin, V.	1175-1180A	Sakai, T.	161-167A
Ma, Z.	2477-2481A	979-987A	Pelton, A.D.	591-601B		2957-2965A
Mabuchi, M.	1579-1583A	1883-1894A	Perez, R.J.	2469-2475A	Sakai, Y.	223-228B
Maccagno, T.M.	677-683A	1933-1939A	Pérez-Prado, M.T.	485-492A	Sakamoto, M.	211-222B
MacDonald, W.D.	989-1001A	507-512A	Perng, T.-P.	131-137A	Samajdar, I.	2835-2842A
MacEwen, S.R.	1383-1394A	513-518A	Perry, A.J.	593-610A	Samarasekera, I.V.	611-620B
Machmeier, P.	315-325A	1193-1198B	Perjoo, A.	1023-1028A	Samuel, A.M.	621-633B
Madariaga, I.	527-535A	987-991B	Pickles, C.A.	39-51B	Samuel, F.H.	709-719B
Magee, K.H.	903-905A	2933-2939A	Pike, L.M.	1911-1915A	Sapsoznikova, S.Yu.	2871-2884A
Mahoney, M.W.	1677-1690A	2655-2668A	Pint, B.A.	2975-2986A	Sano, M.	793-806B
Maironoda, A.B.	1003-1015A	2657-581B	Pippin, R.	1357-1360A	Sano, M.	211-222B
Maier, H.J.	1677-1690A	809-822A	Poirier, D.R.	847-855B	Sarangi, B.	739-747B
Maire, E.	427-437A	3017-3028A	Polak, M.	1341-1345A	Sano, N.	197-203B
Majumdar, B.S.	765-773A	2433-2446A	Pollock, T.M.	965-978A	Sasaki, G.	411-414B
Makinde, A.	2995-3004A	351-360B	Pomfret, R.J.	111-118B	Sasaki, G.	1043-1049B
Malow, T.R.	2613-2620A	279-287A	Pompe, O.	361-367A	Santerre, R.	1235-1240B
Mangan, M.A.	1237-1243A	551-558A	Poole, W.J.	855-861A	Sany-Ya, S.	1007-1019B
Marder, A.R.	527-535A	211-222B	Poon, S.J.	1821-1824A	Sapožnikova, S.Yu.	351-360B
Margevicius, R.W.	1003-1015A	569-575B	Pototsky, P.	2995-3004A	Sarangi, B.	105-110B
Margolin, H.	1071-1079A	19-26A	Powell, G.L.F.	2775-2784A	Sarma, B.	1135-1136B
Marsh, S.P.	479-484B	411-414B	Prasad, B.K.	1245-1255A	Sasaki, G.	935-938B
Maruko, T.	2785-2796A	943-950A	Prat, F.	2747-2752A	Sasaki, G.	1517-1524A
Massalski, T.B.	1071-1079A	1983-1989A	Prenitzer, B.I.	1643-1651A	Sasaki, Y.	829-836B
Masumura, R.A.	2425-2432A	1431-1439A	Pritzker, M.	2399-2406A	Santerre, R.	987-991B
Matic, P.	2395-2398A	325-329B	Priya, S.	953-960B	Sato, K.	1707-1710A
Matossian, J.N.	775-780A	405-410B	Pryds, N.H.	1545-1550A	Sato, M.	1057-1068B
Matsuda, K.	593-610A	495-499B	Przystupa, M.A.	367-376A	Sato, T.	1161-1167A
Matsuura, T.	1161-1167A	179-189A	Puchi, E.S.	727-737A	Saxén, H.	651-659B
Mazumunda, J.	1167-1174B	527-535A	Purdy, G.R.	2345-2359A	Saxena, A.	691-697B
Maurice, C.	2333-2344A	2011-2013A	Putatunda, S.K.	2049-2058A	Saxena, A.	1917-1922A
Maziasz, P.J.	105-117A	2237-2243A	Pyo, S.g.	3005-3016A	Saxena, V.K.	3029-3036A
Mazumder, J.	1269-1279B	2245-2252A	Qi, M.	2273-2283A	Schlesinger, M.E.	245-261A
McCay, M.H.	1137-1139A	2503-2510A	Quiles, F.N.	1741-1747A	Schnelbel, J.H.	1371-1372B
McCay, T.D.	1137-1139A	2237-2243A	Ra, H.Y.	699-708B	Schofield, H.	1811-1820A
McCormick, P.G.	449-455B	2245-2252A	Rack, H.J.	2455-2467A	Schwartz, E.	1405-1414A
McDavid, R.M.	679-690B	2503-2510A	Radhakrishnan, V.M.	245-261A	Sato, K.	1127-1134B
McDonell, V.G.	793-806B	2539-2542A	Radjai, A.	1477-1484A	Schwarz, R.B.	1795-1804A
McMahon, G.	1947-1954A	2011-2013A	Radojevic, B.	131-137A	1805-1809A	
McNelley, T.R.	485-492A	2237-2243A	Rafaja, D.	439-446A	Schwerdtfeger, K.	1057-1068B
McPherson, N.A.	2433-2446A	2621-2630A	Rainforth, W.M.	2727-2736A	Seetharaman, S.	1136-1139B
Mebed, A.M.	823-832A	2727-2806A	Raj, S.V.	179-189A	Seetharaman, S.	7-18A
Meekisho, L.L.	739-749A	661-672B	Ramasundaram, P.	493-505A	Sehitoglu, H.	1991-1999A
Meghlaoui, A.	661-672B	1081-1091A	Ranganathan, S.	2205-2219A	Sehitoglu, H.	427-437A
Mehrotra, S.P.	1007-1019B	1477-1484A	Rangarajan, V.	2835-2842A	765-773A	
Mendiratta, M.G.	339-349B	799-807A	Ransing, R.S.	2707-2715A	Sekhar, J.A.	59-67B
Mercer, C.	37-47A	179-189A	Rao Rama, V.V.	437-448B	Semiatin, S.L.	7-18A
Michael, J.R.	2361-2374A	1031-1035B	Rao, P.P.	1665-1675A	1471-1475A	
Miki, T.	2785-2796A	2797-2806A	Rappaz, J.	3005-3016A	1763-1765A	
Milar, D.W.	1043-1049B	699-708B	Rappaz, M.	617-630A	1991-1999A	
Milligan, W.W.	823-832A	2011-2013A	Rappel, W.-J.	2807-2817A	2307-2321A	
Ming, R.O.C.	2261-2271A	2225-2227A	Ray, H.S.	1457-1470A	Sehitoglu, H.	765-773A
Miracle, D.B.	1153-1160A	205-210B	Ray, R.K.	1135-1136B	Sen, R.	2639-2642A
Mitlin, D.	1237-1243A	2225-2227A	Ray, R.K.	1175-1180B	Sen, S.	1691-1696A
Mitra, R.	1309-1317A	2225-2227A	Reynolds, W.T., Jr.	1457-1470A	1697-1706A	
Miwa, K.	1665-1675A	2225-2227A	Reynolds, W.T., Jr.	1457-1470A	Seo, D.Y.	89-98A
Miyata, M.	1477-1484A	2225-2227A	Richards, N.L.	1457-1470A	Seok, H.-K.	699-708B
Miyazaki, T.	739-747B	2225-2227A	Richards, N.L.	1457-1470A	Serra, E.	1023-1028A
Mizuuchi, K.	739-749A	2225-2227A	Richards, N.L.	1457-1470A	Seshagiri, S.	37-47A
Mo, A.	1127-1135A	2225-2227A	Richards, N.L.	1457-1470A	Shakhar, R.	339-349B
Mo, Z.M.	2189-2194A	2225-2227A	Richards, N.L.	1457-1470A	Shao, Y.	1825-1828A
Modi, O.P.	1565-1572A	2225-2227A	Richards, N.L.	1457-1470A	Sharma, I.G.	309-315B
Mogulnov, B.M.	155-161B	2225-2227A	Richards, N.L.	1457-1470A	Sheeran, A.	555-562B
Mohamed, A.E.	1149-1156B	2225-2227A	Richards, N.L.	1457-1470A	Shelkova, N.E.	155-161B
Mohamed, F.A.	1653-1663A	2225-2227A	Richards, N.L.	1457-1470A	Shen, D.	149-151A
Mohanty, P.S.	1269-1279B	2225-2227A	Richards, N.L.	1457-1470A	Shen, H.F.	341-351A
Monaghan, B.J.	111-118B	2225-2227A	Richards, N.L.	1457-1470A	Shen, T.	1795-1804A
Montalvo, R.A.	95-104B	2225-2227A	Richards, N.L.	1457-1470A	Shen, Z.	149-151A
Moon, I.	1873-1882A	2225-2227A	Richards, N.L.	1457-1470A	Sheng, Y.Y.	77-83B
Moore, J.J.	867-875B	2225-2227A	Richards, N.L.	1457-1470A	Shewmon, P.G.	85-94B
	877-887B	2225-2227A	Richards, N.L.	1457-1470A	Shi, P.	509-518B
		2225-2227A	Richards, N.L.	1457-1470A	Shibue, K.	2477-2481A
		2225-2227A	Richards, N.L.	1457-1470A	Shibutani, T.	263-277A
		2225-2227A	Richards, N.L.	1457-1470A	Shiflet, G.J.	2533-2542A
		2225-2227A	Richards, N.L.	1457-1470A	Shiflet, G.J.	1821-1824A
		2225-2227A	Richards, N.L.	1457-1470A	Shiflet, G.J.	2073-2085A
		2225-2227A	Richards, N.L.	1457-1470A	Shiflet, G.J.	2087-2100A

2101-2110A	Takasaki, A.	307-314A	Venkateswari, K.	2747-2752A	1345-1356B
Shih, D.S.	73-87A	587-592A	Verhoeven, J.D.	1181-1189A	397-401A
Shin, K.S.	477-483A	Takeuchi, A.	1779-1793A	1372-1374B	2737-2746A
	2583-2590A	Takeuchi, T.	2195-2203A	2925-2931A	837-845B
Shinozaki, N.	1121-1125A	Takuda, H.	2829-2834A	1081-1091A	685-692A
Shoales, G.A.	1257-1263A	Taleff, E.M.	1081-1091A	2161-2172A	404-408A
Shofner, T.L.	2399-2406A	Talyan, V.	2161-2172A	1167-1174B	Yao, L.J.
Shoykhet, B.	937-942A	Tan, X.	507-512A	385-396B	1517-1524A
Sichen, D.	1136-1139B		513-518A	2591-2596A	943-950A
Sietsma, J.	2925-2931A	Tanabe, T.	331-338B	751-755A	493-505A
Simkovich, G.	385-396B	Tanaka, M.	1289-1298A	2001-2009A	2361-2374A
Singh Raman, R.K.	577-586A	Tandon, K.N.	1101-1111A	1741-1747A	2747-2752A
Singh, A.K.	665-675A	Taneda, Y.	307-314A	647-658A	1047-1056A
Singh, J.B.	1883-1894A	Tang, N.-Y.	2643-2645A	3037-3046A	699-708B
Singh, P.	2147-2159A	Tanoue, K.	519-526A	2737-2746A	Yi, D.
Singh, V.	2173-2188A	Taya, M.	1127-1135A	1923-1931A	119-129A
Smith, P.R.	1279-1288A	Taylor, R.N.	485-492B	1933-1939A	867-875B
Soboyojo, W.O.	493-505A	Teng, K.S.	749-754B	1157-1166B	877-887B
Sofokleous, K.	2361-2374A	Terakura, Y.	587-592A	2121-2125A	889-897B
Sohn, H.Y.	17-22B	Terauchi, Y.	1219-1225B	1509-1516A	1219-1225B
	457-464B	Tewari, S.N.	377-385A	149-151A	551-558A
	465-469B		1527-1530A	1845-1851A	Yoo, M.H.
	583-590B	Theodorakakos, A.	1117-1126B	635-640B	49-63A
Sohn, K.-S.	2543-2554A		1321-1327B	2001-2009A	1811-1820A
Solndal, C.B.	485-492B	Thevik, H.J.	2189-2194A	2563-2569A	279-287A
Soltanieh, M.	1941-1945A	Thibault, J.	1007-1019B	2073-2085A	1517-1524A
Sommer, F.	807-813B	Thomas, R.	1485-1498A	1279-1288A	1289-1298A
Song, B.	415-420B	Tian, C.	785-791B	1035-1046A	1653-1663A
Song, H.-S.	1057-1069A	Tikasz, L.	1007-1019B	1545-1550A	Yu, H.
Song, W.	1315-1319B	Tisdale, D.G.	77-83B	2049-2058A	3081-3086A
Song, X.	3081-3086A		85-94B	2137-2145A	1573-1578A
Sonoda, M.	1121-1125A	Tjong, S.C.	299-306A	1145-1151A	989-1001A
Spaepen, F.	1825-1828A	Todirov, M.T.	269-273B	1153-1160A	1383-1394A
Spurling, R.A.	1955-1964A	Toguri, J.M.	317-323B	401-403A	Wei, X.
Sridhar, R.	1941-1945A		1941-1945A	2697-2705A	Yue, Z.F.
Srivastava, A.K.	2205-2219A	Tomé, C.N.	2967-2973A	855-861A	1093-1099A
Staia, M.H.	2345-2359A	Toncheff, R.	2707-2715A	603-610B	Yuki, N.
Stefanescu, D.M.	1691-1696A	Tong, X.C.	875-891A	1077-1083B	289-298A
	1697-1706A		893-902A	611-620B	Zaitsev, A.I.
Stevens, R.	673-678B	Tremblay, R.	1759-1763A	621-633B	155-161B
Stevie, F.A.	2399-2406A	Trivedi, R.	1457-1470A	709-719B	Zajac, S.
Stocks, G.M.	1845-1851A	Troshkina, I.D.	293-295B	1425-1430A	163-176B
Stojanova, L.	421-427B	Tsenev, N.K.	169-177A	785-791B	2555-2561A
Stomp, C.	617-630A		2237-2243A	2613-2620A	Zhang, D.L.
Story, S.R.	935-938B	Tsujino, R.	569-575B	1077-1083B	727-737A
Stout, M.G.	775-780A	Tsukada, T.	223-228B	1217-2136A	749-754B
Strutzenberger, J.	631-646A	Tsukihashi, F.	1037-1042B	275-281B	Zhang, T.
Stubbles, J.	5-16B	Turnbull, D.	1825-1828A	2613-2620A	177-186B
Su, R.-J.	2375-2381A	Ueno, M.	1375-1381A	1077-1083B	187-195B
Suehiro, M.	1029-1034A	Uetani, Y.	1161-1167A	2761-2773A	Zhang, W.Q.
Sugiyama, K.	1559-1563A	Ulvensoen, J.H.	119-129A	2645-2647A	177-186B
Suh, D.	700-705A	Umakoshi, Y.	943-950A	2717-2726A	Zhang, X.
Sui, H.X.	1565-1572A	Umezawa, O.	809-822A	867-875B	Zhang, Y.
Suito, H.	119-129B		3017-3028A	877-887B	Zhang, Z.F.
Sumiyama, K.	1973-1981A	Upadhyaya, A.	857-866B	889-897B	Zhao, Y.
Sun, C.G.	2407-2424A		2631-2638A	833-841A	197-203B
Sun, S.	137-145B	Utgard, T.A.	821-827B	1811-1820A	Zhao, Y.Y.
	296-298B	Vahlas, C.	1347-1355A	2761-2773A	1357-1369B
Sun, Y.Q.	2679-2685A	Vaidya, R.U.	2753-2760A	527-535A	Zhong, T.
Sun, Z.M.	263-277A	Valiev, R.Z.	169-177A	1829-1835A	Zhou, B.L.
Sundararaman, M.	1883-1894A		2237-2243A	527-535A	635-640B
Surappa, M.K.	1319-1327A		2253-2260A	527-535A	793-806B
	1329-1339A	Van Der Giessen, E.	2925-2931A	1281-1288B	685-692A
	2835-2842A	Van Der Zwaag, S.	2925-2931A	1289-1295B	911-917B
Sutalo, I.D.	773-784B	Van Deventer, J.S.J.	283-291B	1741-1747A	2591-2596A
	993-1006B	Van Jaarsveld, J.G.S.	283-291B	2687-2695A	2855-2862A
Sutou, Y.	2225-2227A	Van Leeuwen, Y.	2925-2931A	1741-1747A	Zhu, J.H.
Suzuki, H.G.	2195-2203A	Van Loo, F.J.J.	2951-2956A	2687-2695A	Zhu, S.M.
Suzuki, K.	1973-1981A	Van Neste, A.	1759-1763A	1741-1747A	299-306A
Suzuki, N.	2987-2993A	Van Niekerk, W.H.	147-153B	2477-2481A	Zhu, Y.F.
Suzuki, R.O.	1167-1174B	Vana Varamban, S.	1525-1527A	1375-1381A	404-408A
Swihart, J.C.	1845-1851A	Vander Voort, G.F.	237-244A	537-549A	2253-2260A
Swinbourne, D.R.	555-562B	Vargas, T.	899-909B	Yamamoto, I.	1315-1319B
Symons, D.M.	1265-1277A	Varnas, S.R.	1329-1343B	635-640B	2497-2502A
Szókefalvi-Nagy, Á.	421-427B	Vecchio, K.S.	191-203A	1741-1747A	Zinsser, W.A., Jr.
Tacke, K.-H.	1057-1068B	Venkateswara Rao, K.T.	2483-2496A	1741-1747A	1749-1757A
Tajima, I.	131-136B		Yang, H.	1297-1307B	Zou, D.X.
				3029-3036A	559-564A
				449-455B	Zou, W.H.
					Zupan, M.
					565-571A
					Zwigl, P.
					2571-2582A

Combined Subject Index

Abrasion resistance, Heating effects	
Controlled graphitization as a potential option for improving wear resistance of unalloyed white irons.	2147-2159A
Abrasive wear, Heating effects	
Controlled graphitization as a potential option for improving wear resistance of unalloyed white irons.	2147-2159A
Absorption (energy)	
Compressive deformation and energy absorbing characteristic of foamed aluminum.	2497-2502A
Accuracy	
The influence of temperature gradient zone melting on micro-segregation.	361-367A
Dynamic analysis of unidirectional pressure infiltration of porous preforms by pure metals.	377-385A
Primary spacing in directional solidification.	1113-1119A
Dependence of thermal residual stress on temperature in a SiC particle-reinforced 6061 Al alloy.	2001-2009A
Acicular structure	
Relationship between fracture toughness and crack extension resistance curves (R curves) for Ti-6Al-4V alloys.	781-789A
Acicular structure, Heating effects	
Upper acicular ferrite formation in a medium-carbon microalloyed steel by isothermal transformation: nucleation enhancement by CuS.	1003-1015A
Activation energy	
A correlation method for determination of crystallization mechanism and activation energy of amorphous alloy.	149-151A
Thermodynamic properties of the Fe-Cr-P liquid solution.	155-161B
Communication: Estimation of isothermal values of activation energy for aluminothermic reduction.	1135-1136B
Communication: Reduction of $\text{FeWO}_4\text{-NiWO}_4$ solid solutions by hydrogen gas.	1136-1139B
Liquidlike sintering behavior of nanometric Fe and Cu powders: experimental approach.	2941-2949A
Adhesion	
Sticking mechanism during hot rolling of two stainless steels.	700-705A
Effects of sulfur impurity on the scale adhesion behavior of a desulfurized Ni-based superalloy aluminized by chemical vapor deposition.	833-841A
Aeration	
Effects of pore diameter, bath surface pressure, and nozzle diameter on the bubble formation from a porous nozzle.	1209-1218B
Effect of cross-flow on the frequency of bubble formation from a single-hole nozzle.	1219-1225B
Aging (artificial)	
Age hardening and the potential for superplasticity in a fine-grained Al-Mg-Li-Zr alloy.	169-177A
Effect of prestrain on aging and bake hardening of cold-rolled, continuously annealed steel sheets.	463-467A
On the characteristics of M ₂ C carbides in the peak hardening regime of AerMet 100 steel.	903-905A
High-resolution electron microscopy on the structure of Guinier-Preston zones in an Al-1.6 mass% Mg ₂ Si alloy.	1161-1167A
Lattice constants and compositions of the metastable Ni ₃ Nb phase precipitated in a Ni-15Cr-8Fe-6Nb alloy.	1169-1174A
Effects of thickness and precracking on the fracture toughness of particle-reinforced Al-alloy composites.	1237-1243A
The effect of carbide precipitation on the hydrogen-enhanced fracture behavior of alloy 690.	1265-1277A
Microstructural evaluation of Ti-6-22-22 alloy.	1585-1592A
Evolution of microstructure and tensile strength of rapidly solidified Al-4.7% Zn-2.5% Mg-0.2% Zr-X wt.% Mn alloys.	1873-1882A
Correlation between the cold-working and aging treatments in a Cu-15 wt.% Cr in situ composite.	2195-2203A
Optimization of the strength-fracture toughness relation in particulate-reinforced aluminum composites via control of the matrix microstructure.	2433-2446A
Phase transformations in Ti-6.8Mo-4.5Fe-1.5Al.	2455-2467A
Nanometer-scale, fully lamellar microstructure in an aged TiAl-based alloy.	2679-2685A
Transformation relaxation and aging in a CuZnAl shape-memory alloy studied by modulated differential scanning calorimetry.	2697-2705A
Interface-controlled fatigue cracking of SCS-6/Ti-22Al-23Nb "orthorhombic" titanium aluminide composite.	2737-2746A
Agitation	
Modeling mean flow and turbulence characteristics in gas-agitated bath with top layer.	211-222B
Mixing time and fluid flow phenomena in liquids of varying kinematic viscosities agitated by bottom gas injection.	569-575B
Air gaps	
The movement of the concave casting surface during mushy-type solidification and its effect on the heat-transfer coefficient.	1051-1056B
Air pollution	
The role of nanosized particles. A frontier in modern materials science, from nanoelectronics to environmental problems.	713-725A
Aircraft components, Microstructure	
Evolution of texture and microstructure in a thermomechanically processed Al-Li-Cu-Mg alloy.	665-675A
Allotropic transformation	
Transformation during the isothermal deformation of low-carbon Nb-B steels.	1383-1394A
Allotropic transformation, Heating effects	
A transmission electron microscope study of 1% Mn ductile iron with different austempering treatments.	2297-2306A
Allotropic transformation, Welding effects	
Spatially resolved x-ray diffraction phase mapping and $\alpha \rightarrow \beta \rightarrow \alpha$ transformation kinetics in the heat-affected zone of commercially pure titanium arc welds.	2761-2773A
Alloys, Diffusion	
A diffusion solution for the melting/dissolution of a solid at constant temperature and its use for measuring the diffusion coefficient in liquids.	751-755A
Aluminides, Microstructure	
Effect of ordering energy and stoichiometry in $\Sigma=5$ boundaries in B2 compounds.	2655-2668A
Nanometer-scale, fully lamellar microstructure in an aged TiAl-based alloy.	2679-2685A
Aluminides, Phase transformations	
Recrystallization behavior of boron-doped Ni ₇₆ Al ₂₄ .	2893-2902A
Aluminides, Synthesis	
Reactive infiltration processing of aluminum-nickel intermetallic compounds.	2819-2828A
Aluminizing	
Effects of sulfur impurity on the scale adhesion behavior of a desulfurized Ni-based superalloy aluminized by chemical vapor deposition.	833-841A
Evolution of aluminide coating microstructure on nickel-base cast superalloy CM-247 in a single-step high-activity aluminizing process.	2173-2188A
Aluminothermic reduction	
Synthesis of neodymium aluminide by aluminothermic reduction of neodymium oxide.	309-315B
Communication: Estimation of isothermal values of activation energy for aluminothermic reduction.	1135-1136B
Aluminum, Binary systems	
A mathematical model for the solute drag effect on recrystallization.	1029-1034A
Aluminum, Casting	
A correlation to describe interfacial heat transfer during solidification simulation and its use in the optimal feeding design of castings.	437-448B
The use of particle image velocimetry in the physical modeling of flow in electromagnetic or direct-chill casting of aluminum. I. Development of the physical model.	1281-1288B
The use of particle image velocimetry in the physical modeling of flow in electromagnetic or direct-chill casting of aluminum. II. Results of the physical model, including bag geometry, blockage, and nozzle placement.	1289-1295B
Aluminum, Composite materials	
Titanium preconditioning of Al_2O_3 for liquid-state processing of Al-Al ₂ O ₃ composite materials.	327-337A
An analytical solution of the critical interface velocity for the encapturing of insoluble particles by a moving solid/liquid interface.	351-358A
Dynamic analysis of unidirectional pressure infiltration of porous preforms by pure metals.	377-385A
Chemical reactions between aluminum and fly ash during synthesis and reheating of Al-fly ash composite.	519-525B
The mechanism of formation of TiB ₂ particulates prepared by in situ reaction in molten aluminum.	635-640B
Monte Carlo simulation of clustering of alumina particles in turbulent liquid aluminum.	785-791B
Al-TiC composites in situ-processed by ingot metallurgy and rapid solidification technology. I. Microstructural evolution.	875-891A
Combustion synthesis of HfB ₂ -Al composites.	877-887B
The effect of gravity on the combustion synthesis of metal-ceramic composites.	889-897B

Al-TiC composites in situ-processed by ingot metallurgy and rapid solidification technology. II. Mechanical behavior.	893-902A	Aluminum base alloys, Casting	Prevention of macrosegregation in squeeze casting of an Al-4.5 wt.% Cu alloy.	341-351A
Effect of interfacial reaction on bending strength of $\text{Al}_{18}\text{B}_4\text{O}_{33}$ whisker-reinforced aluminum composites.	1517-1524A	The influence of temperature gradient zone melting on micro-segregation.	361-367A	
Particle engulfment and pushing by solidifying interfaces. I. Ground experiments.	1691-1696A	Structural transition and macrosegregation of Al-Cu eutectic alloy solidified in the electromagnetic centrifugal casting process.	404-408A	
Particle engulfment and pushing by solidifying interfaces. II. Microgravity experiments and theoretical analysis.	1697-1706A	The movement of the concave casting surface during mushy-type solidification and its effect on the heat-transfer coefficient.	1051-1056B	
Solidification processing of Al-Al ₂ O ₃ composite using turbine stirrer.	1711-1718A	Simulation of microporosity formation in modified and unmodified A356 alloy castings.	1249-1260B	
Control of interfacial reactions during liquid phase processing of aluminum matrix composites reinforced with Inconel 601 fibers.	1727-1739A			
Dry sliding wear of a Ti ₅₀ Ni ₂₅ Cu ₂₅ particulate-reinforced aluminum matrix composite.	1741-1747A	Aluminum base alloys, Coating	On the nature of the Fe-bearing particles influencing hard anodizing behavior of AA 7075 extrusion products.	979-987A
Creep rupture life prediction of short fiber-reinforced metal matrix composites.	1983-1989A			
Damage mechanisms in a cast ductile iron and a Al ₂ O ₃ /Al composite.	2855-2862A	Aluminum base alloys, Composite materials		
		Superplastic behavior and cavitation in high-strain-rate superplastic $\text{Si}_3\text{N}_4/\text{Al}-\text{Mg}-\text{Si}$ composites.	677-683A	
Aluminum, Diffusion		Failure of SiC particulate-reinforced metal matrix composites induced by laser thermal shock.	685-692A	
Effect of oxidation treatment and surface filming on hydrogen degassing from TiH ₂ .	1315-1319B	Al-TiC composites in situ-processed by ingot metallurgy and rapid solidification technology. I. Microstructural evolution.	875-891A	
Aluminum, Extraction		Al-TiC composites in situ-processed by ingot metallurgy and rapid solidification technology. II. Mechanical behavior.	893-902A	
Predictive control of aluminum electrolytic cells using neural networks.	1007-1019B	Thermomechanical behavior of TiNi shape memory alloy fiber reinforced 6061 aluminum matrix composite.	1127-1135A	
Aluminum, Extrusion		Effects of thickness and precracking on the fracture toughness of particle-reinforced Al-alloy composites.	1237-1243A	
Optimizing the rotation conditions for grain refinement in equal-channel angular pressing.	2011-2013A	Directional dendritic solidification of a composite slurry. I. Dendrite morphology.	1319-1327A	
Aluminum, Mechanical properties		Directional dendritic solidification of a composite slurry. II. Particle distribution.	1329-1339A	
Grain boundary cracking.	509-518B	High-temperature phase equilibria in the Al-rich corner of the Al-Ti-C system.	1341-1345A	
High-temperature deformation of commercial-purity aluminum.	2345-2359A	Control of interfacial reactions during liquid phase processing of aluminum matrix composites reinforced with Inconel 601 fibers.	1727-1739A	
Compressive deformation and energy absorbing characteristic of foamed aluminum.	2497-2502A	Dependence of thermal residual stress on temperature in a SiC particle-reinforced 6061 Al alloy.	2001-2009A	
Aluminum, Melting		Microstructures and properties of nanocomposites obtained through SPTS consolidation of powders.	2253-2260A	
Gas flow analysis in melting furnaces.	1199-1207B	Optimization of the strength-fracture toughness relation in particulate-reinforced aluminum composites via control of the matrix microstructure.	2433-2446A	
Aluminum, Metal working		A comparison of the creep properties of an Al-6092 composite and the unreinforced matrix alloy.	2523-2531A	
Analysis of ridging in aluminum auto body sheet metal.	2323-2332A	Numerical analysis of the formability of an aluminum 2024 alloy sheet and its laminates with steel sheets.	2829-2834A	
Aluminum, Microstructure		Role of cold work and SiC reinforcements on the β'/β precipitation in Al-10% Mg alloy.	2835-2842A	
In situ nuclear magnetic resonance investigation of strain, temperature, and strain-rate variations of deformation-induced vacancy concentration in aluminum.	153-159A	Effect of SiC volume fraction and particle size on the fatigue resistance of a 2080 Al/SiC _p composite.	2843-2854A	
Microstructural characteristics of ultrafine-grained aluminum produced using equal-channel angular pressing.	2245-2252A	Fabrication of Al-3 wt.% Mg matrix composites reinforced with Al ₂ O ₃ and SiC particulates by the pressureless infiltration technique.	3087-3095A	
Heterogeneous microstructures and microtextures in cube-oriented Al crystals after channel die compression.	2333-2344A			
On the relation between the number-weighted and volume-weighted grain volume distribution parameters.	3081-3086A	Aluminum base alloys, Corrosion		
Aluminum, Powder technology		A transmission electron microscopy study of constituent-particle-induced corrosion in 7075-T6 and 2024-T3 aluminum alloys.	1153-1160A	
Grain growth of nanocrystalline cryomilled Fe-Al powders.	2469-2475A			
Aluminum, Reactions (chemical)		Aluminum base alloys, Crystal growth		
Deoxidation equilibria of molten nickel by Mg-Al and Mn-Al.	197-203B	An investigation of the effects caused by electromagnetic vibrations in a hypereutectic Al-Si alloy melt.	1477-1484A	
Thermodynamic properties of aluminum, magnesium, and calcium in molten silicon.	1043-1049B	Grain refining of Al-4.5Cu alloy by adding an Al-30TiC master alloy.	1707-1710A	
Aluminum, Recovering		Simplified computation of macrosegregation in multicomponent aluminum alloys.	2189-2194A	
Interfacial tension between aluminum and NaCl-KCl-based salt systems.	821-827B	Static recrystallization kinetics with homogeneous and heterogeneous nucleation using a cellular automata model.	2307-2321A	
Aluminum, Refining		<110> dendrite growth in aluminum featherly grains.	2807-2817A	
A porous titanium diboride composite cathode coating for Hall-Héroult cells. I. Thin coatings.	59-67B	Aluminum base alloys, Directional solidification		
Peltier effects in electrode carbon.	69-76B	The unidirectional solidification of Al-4 wt.% Cu ingots in microgravity.	1101-1111A	
Modeling mean flow and turbulence characteristics in gas-agitated bath with top layer.	211-222B	Primary spacing in directional solidification.	1113-1119A	
Chlorine fluxing for removal of magnesium from molten aluminum: I. Laboratory-scale measurements of reaction rates and bubble behavior.	971-978B	Microstructural and compositional transients during accelerated directional solidification of Al-4.5 wt.% Cu.	2375-2381A	
Chlorine fluxing for removal of magnesium from molten aluminum: II. Mathematical model.	979-986B			
Aluminum, Rolling		Aluminum base alloys, Mechanical properties		
Modeling the microstructural changes during hot tandem rolling of AA5XXX aluminum alloys. I. Microstructural evolution.	611-620B	Correlation of dynamic torsional properties with adiabatic shear banding behavior in ballistically impacted aluminum-lithium alloys.	227-235A	
Aluminum, Solubility		Effect of test temperature on the dynamic torsional deformation behavior of two aluminum-lithium alloys.	469-476A	
A novel method for the determination of the hydrogen solubility in aluminum and aluminum alloy melts.	421-427B	Grain boundary cracking.	509-518B	
Aluminum, Ternary systems		Crystal plasticity forming limit diagram analysis of rolled aluminum sheets.	527-535A	
Thermodynamics and phase equilibria in the Al-In-Sb system.	611-616A	Flow localization in sheet specimens with pairs of holes.	775-780A	
High-temperature phase equilibria in the Al-rich corner of the Al-Ti-C system.	1341-1345A	Effect of temperature on silicon particle damage in A356 alloy.	905-907A	
F-type icosahedral phase and a related cubic phase in the Al-Rh-Cu system.	1559-1563A	Warm-temperature tensile ductility in Al-Mg alloys.	1081-1091A	
Discussion of "Uwakweh and Liu's Reply" and Authors' Reply.	2643-2645A			
Aluminum base alloys				
Modeling of porosity during spray forming: II. Effects of atomization gas chemistry and alloy compositions.	1097-1106B			

Relationship between fracture toughness, fracture path, and microstructure of 7050 aluminum alloy. I. Quantitative characterization.	1191-1201A	Aluminum bronzes, Mechanical properties	The effect of heat input on the microstructure and properties of nickel aluminum bronze laser clad with a consumable of composition Cu-9.0Al-4.6Ni-3.9Fe-1.2Mn.	1677-1690A
Relationship between fracture toughness, fracture path, and microstructure of 7050 aluminum alloy. II. Multiple micro-mechanisms-based fracture toughness model.	1203-1210A	Aluminum compounds, Coatings	Titanium preconditioning of Al_2O_3 for liquid-state processing of $\text{Al}-\text{Al}_2\text{O}_2$ composite materials.	327-337A
A study of superplasticity in a modified 5083 Al-Mg-Mn alloy. Increasing the drawability of AA2014 Al-Cu by differential heat treatment.	1211-1220A	Aluminum compounds, Composite materials	An investigation of toughening in NiAl composites reinforced with yttria-partially stabilized zirconia particles.	493-505A
Temperature-dependent void-sheet fracture in Al-Cu-Mg-Ag-Zr.	1405-1414A		Experimental approaches to simulating interfacial reactions in metal matrix composites.	1347-1355A
Evolution of microstructure and tensile strength of rapidly solidified Al-4.7% Zn-2.5% Mg-0.2% Zr-X wt.% Mn alloys.	1599-1613A		Effect of interfacial reaction on bending strength of $\text{Al}_{18}\text{B}_4\text{O}_{33}$ whisker-reinforced aluminum composites.	1517-1524A
Fabrication of bulk ultrafine-grained materials through intense plastic straining.	1873-1882A		Fracture toughness and R-curve behavior of laminated brittle-matrix composites.	2483-2496A
Environment-sensitive closure and fatigue crack propagation behavior of Al 2090.	2237-2243A	Aluminum compounds, Crystal growth	Phase transformation behavior of gamma titanium aluminide alloys during supertransus heat treatment.	7-18A
Some observations on cyclic deformation structures in the high-strength commercial aluminum alloy AA 7150.	2583-2590A		Microstructure evolution through the $\alpha \rightarrow \gamma$ phase transformation in a Ti-48 at.% Al alloy.	19-26A
Sliding wear behavior of some Al-Si alloys: role of shape and size of Si particles and test conditions.	2727-2736A	Aluminum compounds, Mechanical properties	Supertransus processing of TiAl-based alloys.	27-36A
Aluminum base alloys, Metal working	2747-2752A		The role of grain size and selected microstructural parameters in strengthening fully lamellar TiAl alloys.	37-47A
Factors influencing the equilibrium grain size in equal-channel angular pressing: role of Mg additions to aluminum.	2503-2510A		Physical constants, deformation twinning, and microcracking of titanium aluminides.	49-63A
Microstructural characteristics of 5083 Al alloys processed by reactive spray deposition for net-shape manufacturing.	2597-2611A		Tension and compression testing of single-crystalline gamma Ti-55.5% Al.	65-71A
Ductilization of a powder metallurgy Al-17 wt.% Cu by means of channel-die compression and extrusion.	2613-2620A		Fundamental aspects of fatigue and fracture in a TiAl sheet alloy.	73-87A
Aluminum base alloys, Microstructure			Plastic instability during creep deformation of a NiAl-Hf single-crystal alloy—a case study.	179-189A
Microstructural development of adiabatic shear bands formed by ballistic impact in a Weldalite 049 alloy.	477-483A		Tensile properties and fracture toughness of a Ti-45Al-1.6Mn alloy at loading velocities of up to 12 m/s.	263-277A
Microtexture evolution during annealing and superplastic deformation of Al-5% Ca-5% Zn.	485-492A		Hydrogen uptake in titanium aluminides covered with oxide layers.	307-314A
Evolution of texture and microstructure in a thermomechanically processed Al-Li-Cu-Mg alloy.	665-675A		Coherency stresses in lamellar Ti-Al.	937-942A
Characterizations of pore and constituent particle populations in 7050-T7451 aluminum plate alloys.	727-737A		Effect of deformation temperature on fatigue and fracture behavior in TiAl polysynthetically twinned crystals.	943-950A
Structural models of t^2 -inflated monoclinic and orthorhombic Al-Co phases.	1565-1572A		Atomistic simulation of fracture in TiAl.	951-955A
Growth of δ' on dislocations in a dilute Al-Li alloy.	2073-2085A		Finite element analysis of cavitating facet interaction in a fully lamellar titanium aluminide alloy under creep conditions.	957-964A
Microstructural features and heat flow analysis of atomized and spray-formed Al-Fe-V-Si alloy.	2205-2219A		Microstructural development and creep deformation in equiaxed γ , $\gamma+\alpha_2$, and $\gamma+\alpha_2+B2$ titanium aluminides.	965-978A
On the relation between the number-weighted and volume-weighted grain volume distribution parameters.	3081-3086A		High-temperature deformation behavior of the intermetallic Ti-47 at.% Al-3 at.% Cr alloy.	1425-1430A
Aluminum base alloys, Phase transformations	2669-2677A		The Knoop-hardness yield locus of an orthorhombic titanium aluminide alloy.	1763-1765A
Characterization by thermoelectric power of a commercial aluminum-iron-silicon alloy (8011) during isothermal precipitation.	1145-1151A		Effect of Ni on vacancy concentrations and hardness in FeAl alloys.	1911-1915A
Aluminum base alloys, Phases (state of matter)	1161-1167A		Intergranular fracture of gamma titanium aluminides under hot working conditions.	1991-1999A
An analytical electron microscopy study of constituent particles in commercial 7075-T6 and 2024-T3 alloys.	1559-1563A		Effect of B on the microstructure and mechanical properties of mechanically milled TiAl alloys.	2273-2283A
High-resolution electron microscopy on the structure of Guinier-Preston zones in an Al-1.6 mass% Mg_2Si alloy.	2871-2884A		An investigation of the fracture and fatigue crack growth behavior of forged damage-tolerant niobium aluminide intermetallics.	2361-2374A
F-type icosahedral phase and a related cubic phase in the Al-Rh-Cu system.	699-708B	Aluminum compounds, Microstructure	Changes in microstructure during primary creep of a Ti-47Al-2Nb-1Mn-0.5W-0.5Mo-0.2Si alloy.	89-98A
Effect of Mg and Sr additions on the formation of intermetallics in Al-6 wt.% Si-3.5 wt.% Cu-(0.45) to (0.8) wt.% Fe 319-type alloys.	793-806B		Microstructural evolution during creep of single-phase gamma TiAl.	99-104A
Aluminum base alloys, Powder technology	1085-1096B		Development of ultrafine lamellar structures in two-phase γ -TiAl alloys.	105-117A
A three-dimensional model of the spray forming method.	611-620B		Processing-property-microstructure relationships in TiAl-based alloys.	919-925A
Characterization of spray atomization of 3003 aluminum alloy during linear spray atomization and deposition.	621-633B		Structural models of t^2 -inflated monoclinic and orthorhombic Al-Co phases.	1565-1572A
Modeling of porosity during spray forming: I. Effects of processing parameters.	709-719B	Aluminum compounds, Oxidation	Oxidation protection of Ti-aluminide orthorhombic alloys: an engineered multilayer approach.	1279-1288A
Aluminum base alloys, Rolling	421-427B	Aluminum compounds, Phase transformations	Stress-induced martensitic phase transformations in polycrystalline CuZnAl shape memory alloys under different stress states.	765-773A
Modeling the microstructural changes during hot tandem rolling of AA5XXX aluminum alloys. I. Microstructural evolution.	169-177A		Superheating behavior of NiAl.	2221-2225A
Modeling the microstructural changes during hot tandem rolling of AA5XXX aluminum alloys. II. Textural evolution.	457-464B		Ordering and martensitic transformations of Ni_2AlMn Heusler alloys.	2225-2227A
Modeling the microstructural changes during hot tandem rolling of AA5XXX aluminum alloys. III. Overall model development and validation.	465-469B	Aluminum compounds, Powder technology	Multistage sintering process for Ni ₃ Al powder metallurgical products.	1069-1076B
Aluminum base alloys, Solubility	1955-1964A	Aluminum compounds, Solubility	Thermodynamics of yttrium and oxygen in molten Ti, Ti_3Al , and TiAl.	1037-1042B
A novel method for the determination of the hydrogen solubility in aluminum and aluminum alloy melts.				
Aluminum base alloys, Structural hardening				
Age hardening and the potential for superplasticity in a fine-grained Al-Mg-Li-Zr alloy.				
Aluminum base alloys, Synthesis				
Synthesis of ultrafine particles of intermetallic compounds by the vapor-phase magnesium reduction of chloride mixtures. I. Titanium aluminides.				
Synthesis of ultrafine particles of intermetallic compounds by the vapor-phase magnesium reduction of chloride mixtures. II. Nickel aluminides.				
Aluminum base alloys, Welding				
Properties of friction-stir-welded 7075 T651 aluminum.				

Aluminum compounds, Synthesis

Synthesis of neodymium aluminide by aluminothermic reduction of neodymium oxide.
 Synthesis of ultrafine particles of intermetallic compounds by the vapor-phase magnesium reduction of chloride mixtures. I. Titanium aluminides.
 Synthesis of ultrafine particles of intermetallic compounds by the vapor-phase magnesium reduction of chloride mixtures. II. Nickel aluminides.

Aluminum compounds, Welding

Autogenous gas tungsten arc weldability of cast alloy Ti-48Al-2Cr-2Nb (at.%) versus entruded alloy Ti-46Al-2Cr-2Nb-0.9Mo (at.%).

Aluminum oxide, Coatings

A porous titanium diboride composite cathode coating for Hall-Héroult cells. I. Thin coatings.
 Effects of sulfur impurity on the scale adhesion behavior of a desulfurized Ni-based superalloy aluminized by chemical vapor deposition.

Aluminum oxide, Composite materials

Titanium preconditioning of Al_2O_3 for liquid-state processing of Al- Al_2O_3 composite materials.
 Dynamic analysis of unidirectional pressure infiltration of porous preforms by pure metals.
 Monte Carlo simulation of clustering of alumina particles in turbulent liquid aluminum.
 Solidification processing of Al- Al_2O_3 composite using turbine stirrer.
 Creep rupture life prediction of short fiber-reinforced metal matrix composites.
 Mechanical property and fracture behavior of squeeze-cast Mg matrix composites.
 Damage mechanisms in a cast ductile iron and a $\text{Al}_2\text{O}_3/\text{Al}$ composite.
 Fabrication of Al-3 wt.% Mg matrix composites reinforced with Al_2O_3 and SiC particulates by the pressureless infiltration technique.

Aluminum oxide, Crystal growth

Microstructural characteristics of 5083 Al alloys processed by reactive spray deposition for net-shape manufacturing.

Aluminum oxide, Reactions (chemical)

Computer study of structures, thermodynamic, and electrical transport properties of $\text{Na}_3\text{AlF}_6\text{-Al}_2\text{O}_3$ and $\text{CaF}_2\text{-Al}_2\text{O}_3$ melts. Activities of SiO_2 and Al_2O_3 and activity coefficients of Fe_2O and MnO in $\text{CaO-SiO}_2\text{-Al}_2\text{O}_3\text{-MgO}$ slags.
 Deoxidation equilibria of molten nickel by Mg-Al and Mn-Al.
 Formation of hexavalent chromium by reaction between slag and magnesite-chrome refractory.
 Effects of CaO , Al_2O_3 , and MgO additions on the copper solubility, ferric/ferrous ratio, and minor-element behavior of iron-silicate slags.

Amorphization, Heating effects

Bulk titanium-rich alloys containing nanoscale disordered regions.

Amorphous structure

An analysis of the formation of bulk amorphous silicon from the melt.

Amorphous structure, Deformation effects

A novel way of amorphous phase formation during mechanical alloying of copper and cadmium powders.

Amorphous structure, Heating effects

Bulk titanium-rich alloys containing nanoscale disordered regions.

Annealing

Microtexture evolution during annealing and superplastic deformation of Al-5% Ca-5% Zn.
 Investigation of the annealing texture evolution in hafnium. Bulk titanium-rich alloys containing nanoscale disordered regions.
 Recrystallization behavior of boron-doped $\text{Ni}_{76}\text{Al}_{24}$. Use of the nanoindentation technique for studying microstructure/crack interactions in the fatigue of 4340 steel.

Anode sludge, Reactions (chemical)

Tellurium distribution in copper anode slimes smelting.

Anodes, Electrochemistry

Fundamental studies of copper anode passivation during electrolyrefining. III. The effect of thiourea.

Anodic coatings, Crystal growth

On the nature of the Fe-bearing particles influencing hard anodizing behavior of AA 7075 extrusion products.

Antimony, End uses

Measurement of pH in the vicinity of a cathode during the chloride electrowinning of nickel.

Antimony, Ternary systems

Thermodynamics and phase equilibria in the Al-In-Sb system.

611-616A

Atomic structure

Structure of bulk amorphous Pd-Ni-P alloys determined by synchrotron radiation.

1805-1809A

Atomizing

Characterization of spray atomization of 3003 aluminum alloy during linear spray atomization and deposition.

793-806B

Modeling of porosity during spray forming: I. Effects of processing parameters.

1085-1096B

Modeling of porosity during spray forming: II. Effects of atomization gas chemistry and alloy compositions.

1097-1106B

Liquid flow on a rotating disk prior to centrifugal atomization and spray deposition.

1357-1369B

Austempering

A transmission electron microscope study of 1% Mn ductile iron with different austempering treatments.

2297-2306A

Dependence of fracture toughness of austempered ductile iron on austempering temperature.

3005-3016A

Austenite

Transitions in carbide morphology in a ternary Fe-C-W steel.

2087-2100A

Austenite, Phase transformations

Nonclassical decomposition products of austenite in Fe-C-Cr alloys.

2913-2924A

The effect of geometrical assumptions in modeling solid-state transformation kinetics.

2925-2931A

Austenite, Solubility

Thermodynamics of the Fe-Nb-C-N system and the solubility of niobium carbonitrides in austenite.

163-176B

Austenitic stainless steels, Coatings

On optimization of the powder plasma arc surfacing process.

929-931B

Austenitic stainless steels, Mechanical properties

Creep and rupture properties of an austenitic Fe-30Mn-9Al-1C alloy.

299-306A

A study on fractography in the low-temperature brittle fracture of an 18Cr-18Mn-0.7N austenitic steel.

791-798A

Deformation structure and subsurface fatigue crack generation in austenitic steels at low temperature.

809-822A

The relationship between microstructure and the J-R curve. Effects of test temperature on internal fatigue crack generation associated with nonmetallic particles in austenitic steels.

1917-1922A

Austenitic stainless steels, Metal working

Formability of stainless steel.

2161-2172A

Austenitic stainless steels, Microstructure

Observations of the columnar-to-equiaxed transition in stainless steels.

855-861A

Austenitic stainless steels, Rolling

Sticking mechanism during hot rolling of two stainless steels.

700-705A

Austenitic stainless steels, Welding

A study of the structure of dissimilar submerged arc welds.

823-832A

Carbon migration in 5Cr-0.5Mo/21Cr-12Ni dissimilar metal welds.

3037-3046A

Automotive bodies

Analysis of ridging in aluminum auto body sheet metal.

2323-2332A

Automotive bodies, Coating

Surface segregation of phosphorus, carbon, and sulfur in commercial low-carbon grades of steel.

2707-2715A

Automotive bodies, Mechanical properties

Effect of prestrain on aging and bake hardening of cold-rolled, continuously annealed steel sheets.

463-467A

Automotive components, Materials selection

Effect of Mg and Sr additions on the formation of intermetallics in Al-6 wt.% Si-3.5 wt.% Cu-(0.45) to (0.8) wt.% Fe 319-type alloys.

2871-2884A

Axial stress

Stress-induced martensitic phase transformations in polycrystalline CuZnAl shape memory alloys under different stress states.

765-773A

Bacterial leaching

Bioleaching model of a copper-sulfide ore bed in heap and dump configurations.

899-909B

Bainite, Crystal growth

Continuous cooling transformation temperatures determined by compression tests in low carbon bainitic grades.

989-1001A

Transformation during the isothermal deformation of low-carbon Nb-B steels.

1383-1394A

A transmission electron microscope study of 1% Mn ductile iron with different austempering treatments.

2297-2306A

Baking

Effect of prestrain on aging and bake hardening of cold-rolled, continuously annealed steel sheets.

463-467A

Ball milling

Comparison of grinding kinetics between a typical ball mill and a ball mill fitted with a breaker plate.

Mechanically activated reduction of nickel oxide with graphite.

Mechanical behavior of a bulk nanstructured iron alloy.

A novel way of amorphous phase formation during mechanical alloying of copper and cadmium powders.

17-22B
449-455B
2261-2271A
2425-2432A

Brasses, Microstructure

On the relation between the number-weighted and volume-weighted grain volume distribution parameters.

3081-3086A

Ball mills, Materials selection

Comparison of grinding kinetics between a typical ball mill and a ball mill fitted with a breaker plate.

17-22B

Banded structure, Crystal growth

Model of banding in diffusive and convective regimes during directional solidification of peritectic systems.

1457-1470A

Banded structure, Welding effects

Properties of friction-stir-welded 7075 T651 aluminum.

1955-1964A

Baths, Physical properties

Modeling mean flow and turbulence characteristics in gas-agitated bath with top layer.

211-222B

Bend strength, Processing effects

Effect of interfacial reaction on bending strength of $\text{Al}_{18}\text{B}_4\text{O}_{33}$ whisker-reinforced aluminum composites.

1517-1524A

Beryllium, Corrosion

Effect of pitting corrosion in NaCl solutions on the statistics of fracture of beryllium.

2753-2760A

Binary systems, Phase transformations

A mathematical model for the solute drag effect on recrystallization.

1029-1034A

Binary systems, Phases (state of matter)

Assessment of the Fe-Ti system.

Combined refinement of diffusion coefficients applied on the Nb-C and Nb-N systems.

A thermodynamic study of Ru-Sn binary alloys.

Computer simulation and experimental investigation of the spinodal decomposition in the β Ti-Cr binary alloy system.

Standard enthalpies of formation for some samarium alloys, $\text{Sm}+\text{Me}$ ($\text{Me}=\text{Ni}, \text{Rh}, \text{Pd}, \text{Pt}$), determined by high-temperature direct synthesis calorimetry.

Experimental investigation on the enthalpies of formation of the DyFe_2 , $\text{Dy}_2\text{Fe}_{17}$, ErFe_2 , and ErFe_3 intermetallic compounds.

Thermodynamic properties and phase equilibria for Pt-Rh alloys.

Effect of interfacial kinetic barriers on interface motion in binary diffusion couples.

361-370B

439-446A

577-581B

739-749A

815-820B

1367-1374A

1545-1550A

2021-2032A

Bismuth, Diffusion

A diffusion-kinetic model for predicting solder/conductor interactions in high density interconnections.

2951-2956A

Bismuth, Solubility

Solubility of bismuth in γ -iron.

1371-1372B

Blast furnace practice

Simplified simulation of the transient behavior of temperatures in the upper shaft of the blast furnace.

691-697B

Blast furnaces

Simplified simulation of the transient behavior of temperatures in the upper shaft of the blast furnace.

691-697B

Blister copper, Reactions (chemical)

Kinetic modeling of minor element behavior in copper converting.

261-268B

Borates, Composite materials

Effect of interfacial reaction on bending strength of $\text{Al}_{18}\text{B}_4\text{O}_{33}$ whisker-reinforced aluminum composites.

1517-1524A

Mechanical property and fracture behavior of squeeze-cast Mg matrix composites.

2543-2554A

Borides, Coatings

A porous titanium diboride composite cathode coating for Hall-Héroult cells. I. Thin coatings.

59-67B

Borides, Composite materials

Combustion synthesis of HfB_2 -Al composites.

877-887B

Boron, Alloying additive

Effect of B on the microstructure and mechanical properties of mechanically milled TiAl alloys.

2273-2283A

Boron, Alloying elements

Continuous cooling transformation temperatures determined by compression tests in low carbon bainitic grades.

989-1001A

Transformation during the isothermal deformation of low-carbon Nb-B steels.

1383-1394A

Boron, Diffusion

Grain boundary segregation of boron in Inconel 718.

1947-1954A

Boron, Dopants

Recrystallization behavior of boron-doped $\text{Ni}_{76}\text{Al}_{24}$.

2893-2902A

Brasses, Mechanical properties

Grain boundary cracking.

509-518B

Brasses, Microstructure

On the relation between the number-weighted and volume-weighted grain volume distribution parameters.

3081-3086A

Brazed joints, Crystal growth

Isothermal solidification kinetics of diffusion brazing.

315-325A

Brazed joints, Mechanical properties

A novel approach for predicting the tensile strength of brazed joints.

587-592A

Brazing alloys, Alloy development

Development of a new CuNiTiB brazing alloy for joining Si_3N_4 to Si_3N_4 .

2591-2596A

Brinell hardness, Heating effects

Effect of prestrain on aging and bake hardening of cold-rolled, continuously annealed steel sheets.

463-467A

Brittle fracture

Damage mechanisms in a cast ductile iron and a $\text{Al}_2\text{O}_3/\text{Al}$ composite.

2855-2862A

Brittle fracture, Heating effects

The effect of carbide precipitation on the hydrogen-enhanced fracture behavior of alloy 690.

1265-1277A

Brittle fracture, Low temperature effects

A study on fractography in the low-temperature brittle fracture of an 18Cr-18Mn-0.7N austenitic steel.

791-798A

Brittle fracture, Welding effects

Brittle fracture initiation associated with the strain localization in a heat-affected zone of a low carbon steel.

551-558A

Brittleness, Impurity effects

Hydrogen uptake in titanium aluminides covered with oxide layers.

307-314A

Bronzes, Powder technology

In situ strength evolution during the sintering of bronze powders.

1257-1263A

Bronzes, Recycling

Desulfurization behavior of molten copper alloy by a soda ash.

23-29B

Brownian movement

Monte Carlo simulation of clustering of alumina particles in turbulent liquid aluminum.

785-791B

Bubbles

Water model study of the frequency of bubble formation under reduced and elevated pressures.

755-761B

Effects of pore diameter, bath surface pressure, and nozzle diameter on the bubble formation from a porous nozzle.

1209-1218B

Effect of cross-flow on the frequency of bubble formation from a single-hole nozzle.

1219-1225B

Butt joints, Mechanical properties

A novel approach for predicting the tensile strength of brazed joints.

587-592A

Butt welding

A study of the structure of dissimilar submerged arc welds.

823-832A

Butt welds, Mechanical properties

A study of the structure of dissimilar submerged arc welds.

823-832A

Byproducts

Nonclassical decomposition products of austenite in Fe-Cr alloys.

2913-2924A

Cadmium, Powder technology

A novel way of amorphous phase formation during mechanical alloying of copper and cadmium powders.

2425-2432A

Calcium, Reactions (chemical)

Thermodynamic properties of aluminum, magnesium, and calcium in molten silicon.

1043-1049B

Calcium, Solubility

Equilibrium of calcium vapor with liquid iron and the interaction of third elements.

415-420B

Calcium, Ternary systems

On the observation of a new ternary MgSiCa phase in $\text{Mg}-\text{Si}$ alloys.

1759-1763A

Calcium fluoride, Reactions (chemical)

Computer study of structures, thermodynamic, and electrical transport properties of $\text{Na}_3\text{AlF}_6-\text{Al}_2\text{O}_3$ and $\text{CaF}_2-\text{Al}_2\text{O}_3$ melts.

105-110B

Thermodynamics of chromium oxides in $\text{CaO}-\text{SiO}_2-\text{CaF}_2$ slag.

131-136B

Phosphorus distribution between carbon-saturated iron at 1350°C and lime-based slags containing Na_2 and CaF_2 .

147-153B

Carbides, Crystal growth

On the characteristics of M_2C carbides in the peak hardening regime of AerMet 100 steel.

903-905A

Solidification microstructure and M_2C carbide decomposition in a spray-formed high-speed steel.

1395-1404A

A combined solubility product/new PHACOMP approach for estimating temperatures of secondary solidification reactions in superalloy weld metals containing Nb and C.

1449-1456A

Transitions in carbide morphology in a ternary Fe-C-W steel. A transmission electron microscope study of 1% Mn ductile iron with different austempering treatments.	2087-2100A	Carbonitrides, Solubility Thermodynamics of the Fe-Nb-C-N system and the solubility of niobium carbonitrides in austenite.	163-176B
Grain growth and carbide precipitation in superalloy, UDIMET 520.	2297-2306A	Carbothermic reactions A study on carbothermic reduction of ilmenite ore in a plasma reactor.	1175-1180B
Carbon migration in 5Cr-0.5Mo/21Cr-12Ni dissimilar metal welds.	2687-2695A	Carburizing Stress-state effects on the stress-induced martensitic transformation of carburized 4320 steels.	427-437A
Carbides, Diffusion Interdiffusion in the carbides of the Nb-C system.	3037-3046A	Cast iron, Composite materials A study on carbothermic reduction of ilmenite ore in a plasma reactor.	1175-1180B
Carbon, Alloying additive Isolation of carbon and grain boundary carbide effects on the creep and intergranular stress corrosion cracking behavior of Ni-16Cr-9Fe-xC alloys in 360°C primary water.	2717-2726A	Casting alloys, Coating Evolution of aluminide coating microstructure on nickel-base cast superalloy CM-247 in a single-step high-activity aluminizing process.	2173-2188A
Solidification of Nb-bearing superalloys. I. Reaction sequences.	1035-1046A	Casting alloys, Crystal growth Microsegregation behavior during solidification and homogenization of AerMet100 steel.	205-210B
Solidification of Nb-bearing superalloys. II. Pseudoternary solidification surfaces.	2785-2796A	Casting alloys, Mechanical properties Effect of Y, Sr, and Nd additives on the microstructure and microfracture mechanism of squeeze-cast AZ91-X magnesium alloys.	1221-1235A
Carbon, Alloying elements Microstructure and properties of Cu-C pseudoalloy films prepared by sputter deposition.	2797-2806A	Casting alloys, Microstructure An observation on microstructure of a casting Zn-40 wt.% Al alloy.	2477-2481A
Observations of the columnar-to-equiaxed transition in stainless steels.	647-658A	Casting alloys, Welding Autogenous gas tungsten arc weldability of cast alloy Ti-48Al-2Cr-2Nb (at.%) versus extruded alloy Ti-46Al-2Cr-2Nb-0.9Mo (at.%)	927-935A
Solid particle erosion of an Fe-Fe ₃ C metal matrix composite. Clusters in carbon martensite: thermodynamics and kinetics.	855-861A	Casting defects Prevention of macrosegregation in squeeze casting of an Al-4.5 wt.% Cu alloy.	341-351A
Clusters in carbon martensite: thermodynamics and kinetics.	1071-1079A	Modeling freckle formation in three dimensions during solidification of multicomponent alloys.	847-855B
Carbon, Binary systems Combined refinement of diffusion coefficients applied on the Nb-C and Nb-N systems.	2903-2912A	Castings, Microstructure Microstructural investigation of a rapidly solidified 12Cr-Mo-V steel.	367-376A
Carbon, Diffusion Surface segregation of phosphorus, carbon, and sulfur in commercial low-carbon grades of steel.	2707-2715A	Simulation of microporosity formation in modified and unmodified A356 alloy castings.	1249-1260B
Interdiffusion in the carbides of the Nb-C system.	2717-2726A	Cathodes, Coating A porous titanium diboride composite cathode coating for Hall-Héroult cells. I. Thin coatings.	59-67B
Carbon migration in 5Cr-0.5Mo/21Cr-12Ni dissimilar metal welds.	3037-3046A	Electrochemical characterization of copper deposited on plasma and thermally modified titanium surfaces.	749-754B
Carbon, Electrical properties Peltier effects in electrode carbon.	69-76B	Cavitation Creep and rupture properties of an austenitic Fe-30Mn-9Al-1C alloy.	299-306A
Carbon, Quaternary systems Thermodynamics of the Fe-Nb-C-N system and the solubility of niobium carbonitrides in austenite.	163-176B	Finite element analysis of cavitating facet interaction in a fully lamellar titanium aluminide alloy under creep conditions.	957-964A
Assessment of the Fe-Ti-C system, calculation of the Fe-Ti-N system, and prediction of the solubility limit of Ti(C,N) in liquid Fe.	371-384B	Influence of hydrostatic pressure and multiaxial straining on cavitating superplastic materials.	2555-2561A
Carbon, Reactions (chemical) Influence of melt carbon and sulfur on the wetting of solid graphite by Fe-C-S melts.	471-477B	A theoretical investigation of the effect of material properties and cavity architecture/shape on ductile failure during the hot tension test.	2621-2630A
Reduction of FeO in smelting slags by solid carbon: re-examination of the influence of the gas-carbon reaction.	935-938B	Cavitation, Alloying effects Superplastic flow and cavitation in Zn-22% Al doped with Cu.	1653-1663A
Carbon, Sorption Desorption kinetics of carbon and oxygen in liquid niobium.	1309-1314B	Cavitation, Deformation effects Creep cavity growth under interaction between lattice diffusion and grain-boundary diffusion.	2533-2542A
Carbon, Ternary systems Thermodynamic assessment of liquid Fe-Mn-C system.	397-403B	Cavitation erosion, Coating effects The effect of heat input on the microstructure and properties of nickel aluminum bronze laser clad with a consumable composition Cu-9.0Al-4.6Ni-3.9Fe-1.2Mn.	1677-1690A
High-temperature phase equilibria in the Al-rich corner of the Al-Ti-C system.	1341-1345A	Cellular structure, Processing effects Microstructural features and heat flow analysis of atomized and spray-formed Al-Fe-V-Si alloy.	2205-2219A
Synthesis of nanocomposite thin films based on the Mo-Si-C ternary system and compositional tailoring through controlled ion bombardment.	1719-1725A	Centrifugal casting Structural transition and macrosegregation of Al-Cu eutectic alloy solidified in the electromagnetic centrifugal casting process.	404-408A
Carbon compounds, Reactions (chemical) Distillation and rectification of osmium tetroxide solution in carbon tetrachloride.	293-295B	Ceramic coatings, Reactions (chemical) Wettability, surface tension, and reactivity of the molten manganese/zirconia/yttria ceramic system.	1121-1125A
Carbon dioxide, Reactions (chemical) The effect of surfactants on the interfacial rates of reaction of CO ₂ and CO with liquid iron oxide.	137-145B	Ceramic fibers, Coating Titanium preconditioning of Al ₂ O ₃ for liquid-state processing of Al-Al ₂ O ₃ composite materials.	327-337A
The effect of sulfur on the interfacial rates of reaction of CO ₂ and CO with liquid copper.	296-298B	Chemical vapor deposition Effects of sulfur impurity on the scale adhesion behavior of a desulfurized Ni-based superalloy aluminized by chemical vapor deposition.	833-841A
Steady-state studies of the reactions of H ₂ O-CO and CO ₂ -H ₂ mixtures with liquid iron.	829-836B		
Carbon monoxide, Reactions (chemical) The effect of surfactants on the interfacial rates of reaction of CO ₂ and CO with liquid iron oxide.	137-145B		
The effect of sulfur on the interfacial rates of reaction of CO ₂ and CO with liquid copper.	296-298B		
Steady-state studies of the reactions of H ₂ O-CO and CO ₂ -H ₂ mixtures with liquid iron.	829-836B		
Carbon steels, Crystal growth Solidification behavior and microstructural evolution during laser beam-material interaction.	1269-1279B		
Carbon steels, Welding A study of the structure of dissimilar submerged arc welds. Influence of residual stresses and loading frequencies on corrosion fatigue crack growth behavior of weldments.	823-832A		
Carbonitrides, Crystal growth Grain growth and carbide precipitation in superalloy, UDIMET 520.	1289-1298A		
	2687-2695A		

Chill casting Effect of temperature on silicon particle damage in A356 alloy.	905-907A	Cobalt, Powder technology An examination of the interparticle contact area during sintering of W-0.3 wt.% Co.	1309-1317A
Chlorides, Reactions (chemical) Distillation and rectification of osmium tetroxide solution in carbon tetrachloride.	293-295B	Cobalt, Reactions (chemical) Thermodynamic modeling of liquid Fe-Ni-Cu-Co-S mattes.	591-601B
Chlorination Carbochlorination kinetics of titanium dioxide with carbon and carbon monoxide as reductant. Kinetics of chlorination and oxychlorination of chromium(III) oxide.	1297-1307B 1299-1308A	Cobalt, Recovering The metal saturation line and tie-lines in the nickel-cobalt-sulfur ternary system between 1273 and 1573K.	1941-1945A
Chromite refractories, Reactions (chemical) Formation of hexavalent chromium by reaction between slag and magnesite-chrome refractory.	405-410B	Cobalt compounds, Microstructure Structural models of C_2 -inflated monoclinic and orthorhombic Al-Co phases. Effect of ordering energy and stoichiometry in $\Sigma=5$ boundaries in B2 compounds.	1565-1572A 2655-2668A
Chromium, Alloying additive Ternary alloying study of MoSi_2 .	119-129A	Coke, Reactions (chemical) Influence of melt carbon and sulfur on the wetting of solid graphite by Fe-C-S melts.	471-477B
Chromium, Alloying elements High-temperature deformation behavior of the intermetallic Ti-47 at.% Al-3 at.% Cr alloy.	1425-1430A	Cold drawing Assessment of void growth models from porosity measurements in cold-drawn copper bars.	1895-1909A
Chromium, Binary systems Computer simulation and experimental investigation of the spinodal decomposition in the β Ti-Cr binary alloy system.	739-749A	Cold rolling Grain size estimation in anisotropic materials. Effect of prestrain on aging and bake hardening of cold-rolled, continuously annealed steel sheets. Recrystallization behavior of boron-doped $\text{Ni}_{76}\text{Al}_{24}$.	237-244A 463-467A 2893-2902A
Chromium, Composite materials Correlation between the cold-working and aging treatments in a Cu-15 wt.% Cr in situ composite.	2195-2203A	Cold working Correlation between the cold-working and aging treatments in a Cu-15 wt.% Cr in situ composite. Static recrystallization kinetics with homogeneous and heterogeneous nucleation using a cellular automata model. An x-ray Fourier line shape analysis in cold-worked hexagonal titanium base alloys. Role of cold work and SiC reinforcements on the β'/β precipitation in Al-10% Mg alloy.	2195-2203A 2307-2321A 2639-2642A 2835-2842A
Chromium, Extraction Kinetics of carbochlorination of chromium(III) oxide.	729-737B	Columnar structure Microstructural investigation of a rapidly solidified 12Cr-Mo-V steel. Structural transition and macrosegregation of Al-Cu eutectic alloy solidified in the electromagnetic centrifugal casting process.	367-376A 404-408A
Chromium, Reactions (chemical) Titania-assisted photoreduction of Cr(VI) to Cr(III) in aqueous media: kinetics and mechanisms. Formation of hexavalent chromium by reaction between slag and magnesite-chrome refractory.	95-104B 405-410B	Columnar structure, Composition effects Observations of the columnar-to-equiaxed transition in stainless steels.	855-861A
Chromium, Ternary systems Thermodynamic properties of the Fe-Cr-P liquid solution.	155-161B	Columnar structure, Field effects The unidirectional solidification of Al-4 wt.% Cu ingots in microgravity.	1101-1111A
Chromium compounds, Reduction (chemical) Titania-assisted photoreduction of Cr(VI) to Cr(III) in aqueous media: kinetics and mechanisms. Communication: Estimation of isothermal values of activation energy for aluminothermic reduction.	95-104B	Comminution Comparison of grinding kinetics between a typical ball mill and a ball mill fitted with a breaker plate. Mechanical properties, ductility, and grain size of nanocrystalline iron produced by mechanical attrition.	17-22B 2285-2295A
Chromium molybdenum steels, Heat treatment Analytical/finite-element modeling and experimental verification of spray-cooling process in steel.	1135-1136B	Compressing Stress-state effects on the stress-induced martensitic transformation of carburized 4320 steels. The effect of environment on high-temperature hold time fatigue behavior of annealed 2.25Cr-1Mo steel.	427-437A 2137-2145A
Chromium molybdenum steels, Mechanical properties The effect of environment on high-temperature hold time fatigue behavior of annealed 2.25Cr-1Mo steel.	1485-1498A	Heterogeneous microstructures and microtextures in cube-oriented Al crystals after channel die compression. Compressive deformation and energy absorbing characteristic of foamed aluminum. Ductilization of a powder metallurgy Al-17 wt.% Cu by means of channel-die compression and extrusion.	2333-2344A 2497-2502A 2613-2620A
Chromium molybdenum steels, Welding Role of microstructural degradation in the heat-affected zone of 2.25Cr-1Mo steel weldments on subscale features during steam oxidation and their role in weld failures.	2137-2145A	Compression tests Tension and compression testing of single-crystalline gamma Ti-55.5% Al.	65-71A
Chromium molybdenum vanadium steels, Casting Microstructural investigation of a rapidly solidified 12Cr-Mo-V steel.	577-586A	Compressive strength, Anisotropy The critical resolved shear stress of a superalloy as a combination of those of its γ matrix and γ' precipitates.	799-807A
Chromium molybdenum vanadium steels, Mechanical properties The relationship between microstructure and the J-R curve.	367-376A	Computer simulation Microsegregation behavior during solidification and homogenization of AerMet100 steel. Crystal plasticity forming limit diagram analysis of rolled aluminum sheets.	205-210B 527-535A
Chromium ores, Reduction (chemical) Thermodynamic estimation on the reduction behavior of iron-chromium ore with carbon. Kinetics of carbochlorination of chromium(III) oxide.	1917-1922A	Numerical simulation of macrosegregation: a comparison between finite volume method and finite element method predictions and a confrontation with experiments. Computer simulation and experimental investigation of the spinodal decomposition in the β Ti-Cr binary alloy system. Monte Carlo simulation of clustering of alumina particles in turbulent liquid aluminum. Solidification of a ternary metal alloy: a comparison of experimental measurements and model predictions in a Pb-Sb-Sn system. Modeling freckle formation in three dimensions during solidification of multicomponent alloys.	617-630A 739-749A 785-791B 843-853A 847-855B
Cleavage, Composition effects Effects of R-ratio on the fatigue crack growth of Nb-Si(ss) and Nb-10Si in situ composites.	1573-1578A		
Cleavage, Microstructural effects Effect of tungsten particle shape on dynamic deformation and fracture behavior of tungsten heavy alloys.	2913-2924A		
Coal, Reactions (chemical) Influence of melt carbon and sulfur on the wetting of solid graphite by Fe-C-S melts.	1551-1558A		
Cobalt, Alloying additive Ternary alloying study of MoSi_2 . Effects of Co and Ni on secondary hardening and fracture behavior of martensitic steels bearing W and Cr.	1749-1757A 1057-1069A 471-477B 119-129A 397-401A		

Atomistic simulation of fracture in TiAl.	951-955A	Bioleaching model of a copper-sulfide ore bed in heap and dump configurations.	899-909B
Simulation of microporosity formation in modified and unmodified A356 alloy castings.	1249-1260B	Leaching kinetics of digenite concentrate in oxygenated chloride media at ambient pressure.	961-969B
Mathematical simulation on coupled flow, heat, and solute transport in slab continuous casting process.	1345-1356B		
Visual simulation of fatigue crack growth.	1923-1931A		
Consolidation			
Finite element modeling of distortion during liquid phase sintering.	659-664A	Copper, Impurities	493-495B
Microstructures and properties of nanocomposites obtained through SPTS consolidation of powders.	2253-2260A	Removal of copper from carbon-saturated iron with an aluminum sulfide/ferrous sulfide flux.	
Contact angle			
Wettability, surface tension, and reactivity of the molten manganese/zirconia-yttria ceramic system.	1121-1125A	Copper, Mechanical properties	509-518B
Continuous annealing		Grain boundary cracking.	1895-1909A
Effect of prestrain on aging and bake hardening of cold-rolled, continuously annealed steel sheets.	463-467A	Assessment of void growth models from porosity measurements in cold-drawn copper bars.	2563-2569A
Continuous casting		Comparison of cyclic deformation behavior between copper bicrystals and their component crystals.	
Model for temperature profile estimation in the refractory of a metallurgical ladle.	651-659B	Copper, Metal working	2987-2993A
Stress formation in solidifying bodies. Solidification in a round continuous casting mold.	1057-1068B	Noncontact ultrasonic spectroscopy on deforming polycrystalline copper: dislocation damping and acoustoelasticity.	
Numerical investigation of the free surface in a continuous steel casting mold model.	1117-1126B	Copper, Microstructure	2957-2965A
Fractal analysis of the surface cracks on continuously cast steel slabs.	1261-1267B	Strain-induced grain evolution in polycrystalline copper during warm deformation.	
Numerical investigation of the interface in a continuous steel casting mold water model.	1321-1327B	Copper, Powder technology	2425-2432A
Mathematical simulation on coupled flow, heat, and solute transport in slab continuous casting process.	1345-1356B	A novel way of amorphous phase formation during mechanical alloying of copper and cadmium powders.	2941-2949A
Continuous casting, Quality control		Liquidlike sintering behavior of nanometric Fe and Cu powders: experimental approach.	
Investigation of inclusion re-entrainment from the steel-slag interface.	641-649B	Copper, Reactions (chemical)	283-291B
Continuous rolling		Factors affecting the immobilization of metals in geopolymers.	
Modeling the microstructural changes during hot tandem rolling of AA5XXX aluminum alloys. I. Microstructural evolution.	611-620B	The effect of sulfur on the interfacial rates of reaction of CO ₂ and CO with liquid copper.	296-298B
Modeling the microstructural changes during hot tandem rolling of AA5XXX aluminum alloys. II. Textural evolution.	621-633B	Thermodynamic modeling of liquid Fe-Ni-Cu-Co-S mattes.	591-601B
Modeling the microstructural changes during hot tandem rolling of AA5XXX aluminum alloys. III. Overall model development and validation.	709-719B	Copper, Refining	53-58B
Convection, Field effects		Fundamental studies of copper anode passivation during electrolyrefining. III. The effect of thiourea.	
Marangoni convection flow in NaNO ₃ -KNO ₃ mixture under microgravity.	987-991B	Modeling mean flow and turbulence characteristics in gas-agitated bath with top layer.	211-222B
The influence of gravity-related convection on secondary arm evolution in NH ₄ Cl-H ₂ O.	1137-1139A	Surface interactions between fayalite slags and synthetic spinels and solid solutions.	317-323B
Cooling curves, Composition effects		Formation of hexavalent chromium by reaction between slag and magnesite-chrome refractory.	405-410B
Continuous cooling transformation temperatures determined by compression tests in low carbon bainitic grades.	989-1001A	Tellurium distribution in copper anode slimes smelting.	555-562B
Cooling rate		Deoxidation of molten copper with a rotating graphite cylinder.	739-747B
Superrans processing of TiAl-based alloys.	27-36A	Copper, Smelting	261-268B
An investigation of the effects caused by electromagnetic vibrations in a hypereutectic Al-Si alloy melt.	1477-1484A	Kinetic modeling of minor element behavior in copper smelting.	
Ferromagnetic bulk amorphous alloys.	1779-1793A	Copper, Ternary systems	807-813B
Ab initio studies of the electronic structure and energetics of bulk amorphous metals.	1845-1851A	Thermochemistry of ternary liquid Cu-Mg-Si alloys.	
Copper, Brazing		F-type icosahedral phase and a related cubic phase in the Al-Rh-Cu system.	1559-1563A
Isothermal solidification kinetics of diffusion brazing.	315-325A	Copper base alloys, Alloy development	2591-2596A
Copper, Casting		Development of a new CuNiTiB brazing alloy for joining Si ₃ N ₄ to Si ₃ N ₄ .	
The free-surface shape and temperature distribution produced in liquid metal droplets by heating coil pulses in the TEMPUS electromagnetic levitation facility.	1127-1134B	Copper base alloys, Casting	1795-1804A
Copper, Crystal growth		Bulk amorphous metallic alloys: synthesis by fluxing techniques and properties.	
A model for microstructure evolution in adiabatic shear bands.	191-203A	Copper base alloys, Claddings	1677-1690A
Copper, Diffusion		The effect of heat input on the microstructure and properties of nickel aluminum bronze laser clad with a consumable of composition Cu-9.0Al-4.6Ni-3.9Fe-1.2Mn.	
A diffusion-kinetic model for predicting solder/conductor interactions in high density interconnections.	2951-2956A	Copper base alloys, Composite materials	2195-2203A
Copper, Dopants		Correlation between the cold-working and aging treatments in a Cu-15 wt % Cr in situ composite.	
Superplastic flow and cavitation in Zn-22% Al doped with Cu.	1653-1663A	Microstructures and properties of nanocomposites obtained through SPTS consolidation of powders.	2253-2260A
Copper, Extraction		Copper base alloys, Electrical properties	647-658A
Selective oxidation of copper from liquid copper-silver alloys.	39-51B	Microstructure and properties of Cu-C pseudoalloy films prepared by sputter deposition.	
A kinetic model of the Peirce-Smith converter. I. Model formulation and validation.	239-249B	Copper base alloys, Mechanical properties	1245-1255A
A kinetic model of the Peirce-Smith converter. II. Model application and discussion.	251-259B	Sliding wear response of a zinc-based alloy compared to a copper-based alloy.	
Henrian activity coefficient of Pb in Cu-Fe mattes and white metal.	429-436B	Copper base alloys, Oxidation	39-51B
Physicochemical and structural factors in the sulfuric acid leaching of nickel- and copper-bearing synthetic bimimetates.	527-540B	Selective oxidation of copper from liquid copper-silver alloys.	
Effects of CaO, Al ₂ O ₃ , and MgO additions on the copper solubility, ferric/ferrous ratio, and minor-element behavior of iron-silicate slags.	583-590B	Copper base alloys, Phase transformations	1865-1871A
Electrochemical characterization of copper deposited on plasma and thermally modified titanium surfaces.	749-754B	Microstructural studies of a Cu-Zn-Al shape-memory alloy with manganane and zirconium addition.	2101-2110A
		The effect of undercooling on the cellular precipitation reaction in Cu-3T.	2697-2705A
		Transformation relaxation and aging in a CuZnAl shape-memory alloy studied by modulated differential scanning calorimetry.	
		Copper base alloys, Powder technology	1085-1096B
		Modeling of porosity during spray forming: I. Effects of processing parameters.	

Copper compounds, Casting	Modeling of porosity during spray forming: II. Effects of atomization gas chemistry and alloy compositions.	1097-1106B	Crack propagation	Discussion of error in the analysis of the wake dislocation problem.	1357-1360A
	The free-surface shape and temperature distribution produced in liquid metal droplets by heating coil pulses in the TEMPUS electromagnetic levitation facility.	1127-1134B		Visual simulation of fatigue crack growth.	1923-1931A
Copper compounds, Impurities	Upper acicular ferrite formation in a medium-carbon microalloyed steel by isothermal transformation: nucleation enhancement by CuS.	1003-1015A		Thermomechanical fatigue behavior of the high-temperature titanium alloy IMI 834.	2995-3004A
Copper compounds, Phase transformations	Stress-induced martensitic phase transformations in polycrystalline CuZnAl shape memory alloys under different stress states.	765-773A	Crack propagation, Composition effects	Effects of R-ratio on the fatigue crack growth of Nb-Si(ss) and Nb-10Si <i>in situ</i> composites.	1749-1757A
Copper mattes, Reduction (chemical)	Henrian activity coefficient of Pb in Cu-Fe mattes and white metal.	429-436B		An investigation of the fracture and fatigue crack growth behavior of forged damage-tolerant niobium aluminide intermetallics.	2361-2374A
Copper ores, Beneficiation	Leaching kinetics of digenite concentrate in oxygenated chloride media at ambient pressure.	961-969B	Crack propagation, Heating effects	Interface-controlled fatigue cracking of SCS-6/Ti-22Al-23Nb "orthorhombic" titanium aluminide composite.	2737-2746A
Copper ores, Reduction (chemical)	A kinetic model of the Peirce-Smith converter. I. Model formulation and validation.	239-249B		Use of the nanoindentation technique for studying microstructure/crack interactions in the fatigue of 4340 steel.	3029-3036A
	A kinetic model of the Peirce-Smith converter. II. Model application and discussion.	251-259B	Crack propagation, Low temperature effects	A study on fractography in the low-temperature brittle fracture of an 18Cr-18Mn-0.7N austenitic steel.	791-798A
	Bioleaching model of a copper-sulfide ore bed in heap and dump configurations.	899-909B		Effect of temperature on silicon particle damage in A356 alloy.	905-907A
Corrosion environments	Role of microstructural degradation in the heat-affected zone of 2.25Cr-1Mo steel weldments on subscale features during steam oxidation and their role in weld failures.	577-586A	Crack propagation, Microstructural effects	Fundamental aspects of fatigue and fracture in a TiAl sheet alloy.	73-87A
Corrosion fatigue, Stress effects	Influence of residual stresses and loading frequencies on corrosion fatigue crack growth behavior of weldments.	1289-1298A		Effect of phase morphology on fatigue crack growth behavior of $\alpha\text{-}\beta$ -titanium alloy—a crack closure rationale.	245-261A
Corrosion mechanisms	Surface interactions between fayalite slags and synthetic spinels and solid solutions.	317-323B		Microstructures controlling the ductile crack growth resistance of low carbon steels.	279-287A
Corrosion resistance, Coating effects	The effect of heat input on the microstructure and properties of nickel aluminum bronze laser clad with a consumable of composition Cu-9.0Al-4.6Ni-3.9Fe-1.2Mn.	1677-1690A		Relationship between fracture toughness and crack extension resistance curves (R curves) for Ti-6Al-4V alloys.	781-789A
Crack closure	Discussion of error in the analysis of the wake dislocation problem.	1357-1360A		Damage process in commercially pure α -titanium alloy without (Ti40) and with (Ti40-H) hydrides.	1615-1628A
Crack closure, Environmental effects	Environment-sensitive closure and fatigue crack propagation behavior of Al 2090.	2583-2590A		Effects of test temperature on internal fatigue crack generation associated with nonmetallic particles in austenitic steels.	3017-3028A
Crack closure, Microstructural effects	Effect of phase morphology on fatigue crack growth behavior of $\alpha\text{-}\beta$ -titanium alloy—a crack closure rationale.	245-261A	Crack propagation, Stress effects	Effect of small loads on crack growth rate and crack tip deformation in the fatigue process of A537 steel.	401-403A
Crack closure, Stress effects	A model for roughness-induced fatigue crack closure.	1933-1939A		Influence of residual stresses and loading frequencies on corrosion fatigue crack growth behavior of weldments.	1289-1298A
Crack initiation	Deformation structure and subsurface fatigue crack generation in austenitic steels at low temperature.	809-822A		The effects of residual macrostresses and microstresses on fatigue crack propagation.	2127-2136A
	Damage mechanisms in a cast ductile iron and a Al_2O_{3p} /Al composite.	2855-2862A	Cracking (fracturing), Diffusion effects	Gaseous hydrogen embrittlement of a hydrided zirconium alloy.	1047-1056A
	Thermomechanical fatigue behavior of the high-temperature titanium alloy IMI 834.	2995-3004A	Cracking (fracturing), Welding effects	Improving the weldability and service performance of nickel- and iron-based superalloys by grain boundary engineering.	3069-3079A
Crack initiation, Low temperature effects	Effect of temperature on silicon particle damage in A356 alloy.	905-907A	Cracks	Fractal analysis of the surface cracks on continuously cast steel slabs.	1261-1267B
Crack initiation, Microstructural effects	Physical constants, deformation twinning, and microcracking of titanium aluminides.	49-63A	Creep (materials)	Finite element analysis of cavitating facet interaction in a fully lamellar titanium aluminide alloy under creep conditions.	957-964A
	Fundamental aspects of fatigue and fracture in a TiAl sheet alloy.	73-87A		Creep cavity growth under interaction between lattice diffusion and grain-boundary diffusion.	2533-2542A
	Characterizations of pore and constituent particle populations in 7050-T7451 aluminum plate alloys.	727-737A	Creep (materials), Composition effects	A comparison of the creep properties of an Al-6092 composite and the unreinforced matrix alloy.	2523-2531A
	Damage process in commercially pure α -titanium alloy without (Ti40) and with (Ti40-H) hydrides.	1615-1628A	Creep life	Creep rupture life prediction of short fiber-reinforced metal matrix composites.	1983-1989A
	Effects of test temperature on internal fatigue crack generation associated with nonmetallic particles in austenitic steels.	3017-3028A	Creep rate	Creep rupture life prediction of short fiber-reinforced metal matrix composites.	1983-1989A
Crack initiation, Temperature effects	Temperature-dependent void-sheet fracture in Al-Cu-Mg-Ag-Zr.	1599-1613A	Creep rate, Alloying effects	Isolation of carbon and grain boundary carbide effects on the creep and intergranular stress corrosion cracking behavior of Ni-16Cr-9Fe-xC alloys in 360°C primary water.	1035-1046A
Crack initiation, Welding effects	Brittle fracture initiation associated with the strain localization in a heat-affected zone of a low carbon steel.	551-558A	Creep rate, Heating effects	Changes in microstructure during primary creep of a Ti-47Al-2Nb-1Mn-0.5W-0.5Mo-0.2Si alloy.	89-98A
Crack opening displacement, Microstructural effects	Relationship between fracture toughness and crack extension resistance curves (R curves) for Ti-6Al-4V alloys.	781-789A	Creep rate, Microstructural effects	Microstructural evolution during creep of single-phase gamma TiAl.	99-104A
				Microstructure and creep behavior of an orthorhombic Ti-25Al-17Nb-1Mo alloy.	559-564A
				Microstructural development and creep deformation in equiaxed γ , $\gamma+\alpha_2$, and $\gamma+\alpha_2+B2$ titanium aluminides.	965-978A
			Creep rupture strength	Creep rupture life prediction of short fiber-reinforced metal matrix composites.	1983-1989A
				Parametric analysis of monocrystalline CMSX-4 creep and rupture data.	2645-2647A

Creep rupture strength, Deformation effects

Volume 29

Creep rupture strength, Deformation effects	
Plastic instability during creep deformation of a NiAl-Hf single-crystal alloy—a case study.	179-189A
Creep rupture strength, Heating effects	
In situ strength evolution during the sintering of bronze powders.	1257-1263A
Creep rupture strength, High temperature effects	
Creep and rupture properties of an austenitic Fe-30Mn-9Al-1C alloy.	299-306A
Creep strength, Alloying effects	
Microstructural development and creep deformation in equiaxed γ , $\gamma+\alpha_2$, and $\gamma+\alpha_2+B2$ titanium aluminides.	965-978A
Creep strength, Heating effects	
Changes in microstructure during primary creep of a Ti-47Al-2Nb-1Mn-0.5W-0.5Mo-0.2Si alloy.	89-98A
Creep strength, Microstructural effects	
Supertransus processing of TiAl-based alloys.	27-36A
Grain-shape parameters for high-temperature creep resistance in powder metallurgy tungsten fine wires.	519-526A
Criteria	
Numerical analysis of the formability of an aluminum 2024 alloy sheet and its laminates with steel sheets.	2829-2834A
Critical temperature, Deformation effects	
Effect of thermal cycling on the R-phase and martensitic transformations in a Ti-rich NiTi alloy.	1175-1180A
Cryolite, Reactions (chemical)	
Computer study of structures, thermodynamic, and electrical transport properties of $\text{Na}_3\text{AlF}_6\text{-Al}_2\text{O}_3$ and $\text{CaF}_2\text{-Al}_2\text{O}_3$ melts.	105-110B
Crystal defects	
The motion of multiple height ledges and disconnections in phase transformations.	2033-2038A
Determining interphase boundary orientations from near-coincidence sites.	2059-2072A
Crystal structure	
Lattice constants and compositions of the metastable Ni_3Nb phase precipitated in a Ni-15Cr-8Fe-6Nb alloy.	1169-1174A
Structural models of τ^2 -inflated monoclinic and orthorhombic Al-Co phases.	1565-1572A
Crystal structure, Impurity effects	
On the nature of the Fe-bearing particles influencing hard anodizing behavior of AA 7075 extrusion products.	979-987A
Crystallization	
A correlation method for determination of crystallization mechanism and activation energy of amorphous alloy.	149-151A
An analysis of the formation of bulk amorphous silicon from the melt.	1825-1828A
Current efficiency	
Measurement of pH in the vicinity of a cathode during the chloride electrowinning of nickel.	1193-1198B
Cutting parameters	
Cutting performance and microstructure of high speed steels: contributions of matrix strengthening and undissolved carbides.	205-216A
Cutting tool materials, Mechanical properties	
Cutting performance and microstructure of high speed steels: contributions of matrix strengthening and undissolved carbides.	205-216A
Cutting tools, Service life	
Cutting performance and microstructure of high speed steels: contributions of matrix strengthening and undissolved carbides.	205-216A
Cyclic loads	
Cyclic deformation behavior of high-purity titanium single crystals. I. Orientation dependence of stress-strain response.	507-512A
Cyclic deformation behavior of high-purity titanium single crystals. II. Microstructure and mechanism.	513-518A
Comparison of cyclic deformation behavior between copper bicrystals and their component crystals.	2563-2569A
Cylinders, Casting	
The movement of the concave casting surface during mushy-type solidification and its effect on the heat-transfer coefficient.	1051-1056B
Damage	
Damage mechanisms in a cast ductile iron and a $\text{Al}_2\text{O}_{3p}/\text{Al}$ composite.	2855-2862A
Damage tolerance	
A strain energy-based approach to the low-cycle fatigue damage mechanism in a high-strength spring steel.	1431-1439A
Damping	
Noncontact ultrasonic spectroscopy on deforming polycrystalline copper: dislocation damping and acoustoelasticity.	2987-2993A

Damping, Deformation effects

Kinetics of strain aging in drawn pearlitic steels.

1415-1423A

Debonding

Damage mechanisms in a cast ductile iron and a $\text{Al}_2\text{O}_{3p}/\text{Al}$ composite.

2855-2862A

Decarburizing

Steady-state studies of the reactions of $\text{H}_2\text{O}-\text{CO}$ and CO_2-H_2 mixtures with liquid iron.

829-836B

Deformation

Comparison of cyclic deformation behavior between copper bicrystals and their component crystals.

2563-2569A

Deformation mechanisms

Microstructural evolution during creep of single-phase gamma TiAl.

99-104A

New grain formation during warm deformation of ferritic stainless steel.

161-167A

Quantitative analysis on boundary sliding and its accommodation mode during superplastic deformation of two-phase Ti-6Al-4V alloy.

217-226A

Correlation of dynamic torsional properties with adiabatic shear banding behavior in ballistically impacted aluminum-lithium alloys.

227-235A

Tensile properties and fracture toughness of a Ti-45Al-1.6Mn alloy at loading velocities of up to 12 m/s.

263-277A

Creep and rupture properties of an austenitic Fe-30Mn-9Al-1C alloy.

299-306A

Effect of test temperature on the dynamic torsional deformation behavior of two aluminum-lithium alloys.

469-476A

Cyclic deformation behavior of high-purity titanium single crystals. II. Microstructure and mechanism.

513-518A

Microstructural development and creep deformation in equiaxed γ , $\gamma+\alpha_2$, and $\gamma+\alpha_2+B2$ titanium aluminides.

965-978A

High-temperature deformation behavior of the intermetallic Ti-47 at.% Al-3 at.% Cr alloy.

1425-1430A

Transformation superplasticity of zirconium.

2571-2582A

Some observations on cyclic deformation structures in the high-strength commercial aluminum alloy AA 7150.

2727-2736A

Noncontact ultrasonic spectroscopy on deforming polycrystalline copper: dislocation damping and acoustoelasticity.

2987-2993A

Deformation mechanisms, Processing effects

Mechanical behavior of a bulk nanostructured iron alloy.

2261-2271A

Degassing

Effect of oxidation treatment and surface filming on hydrogen degassing from TiH_2 .

1315-1319B

Dendritic structure

The influence of temperature gradient zone melting on microsegregation.

361-367A

Microstructural investigation of a rapidly solidified 12Cr-Mo-V steel.

367-376A

Solidification and spangle formation of hot-dip-galvanized zinc coatings.

631-646A

Solidification of a ternary metal alloy: a comparison of experimental measurements and model predictions in a Pb-Sb-Sn system.

843-853A

Primary spacing in directional solidification.

1113-1119A

Directional dendritic solidification of a composite slurry. I. Dendrite morphology.

1319-1327A

Directional dendritic solidification of a composite slurry. II. Particle distribution.

1329-1339A

Microstructural and compositional transients during accelerated directional solidification of Al-4.5 wt.% Cu.

2375-2381A

Discussion of "Effect of dendrite arm coarsening on microsegregation" and authors' reply.

2447-2450A

An observation on microstructure of a casting Zn-40 wt.% Al alloy.

2477-2481A

<110> dendrite growth in aluminum featherly grains.

2807-2817A

A free dendrite growth model accommodating curved phase boundaries and high Pelet number conditions.

3047-3056A

Dendritic structure, Field effects

The unidirectional solidification of Al-4 wt.% Cu ingots in microgravity.

1101-1111A

The influence of gravity-related convection on secondary arm evolution in $\text{NH}_4\text{Cl}-\text{H}_2\text{O}$.

1137-1139A

Dendritic structure, Processing effects

Microstructural features and heat flow analysis of atomized and spray-formed Al-Fe-V-Si alloy.

2205-2219A

Densification

Finite element modeling of distortion during liquid phase sintering.

659-664A

Density, Alloying effects

Effect of Ni on vacancy concentrations and hardness in FeAl alloys.

1911-1915A

Density, Anisotropy

The effect of density anisotropy on the yielding and flow behavior of partially consolidated powder compacts.

1471-1475A

Density, Deformation effects	Microstructures and properties of nanocomposites obtained through SPTS consolidation of powders.	2253-2260A	Directional solidification, Composition effects	Particle engulfment and pushing by solidifying interfaces. I. Ground experiments.	1691-1696A
Density, Processing effects	The effect of tungsten particle size on the processing and properties of infiltrated W-Cu compacts.	1509-1516A	Directional solidification, Field effects	Particle engulfment and pushing by solidifying interfaces. II. Microgravity experiments and theoretical analysis.	1697-1706A
Deoxidizing	Deoxidation equilibria of molten nickel by Mg-Al and Mn-Al. Deoxidation of molten copper with a rotating graphite cylinder. Thermodynamics of yttrium and oxygen in molten Ti, Ti ₃ Al, and TiAl.	197-203B 739-747B 1037-1042B	Dislocation density	Creep and rupture properties of an austenitic Fe-30Mn-9Al-1C alloy.	299-306A
Dephosphorizing	Desulfurization behavior of molten copper alloy by a soda ash. The kinetics of depophosphorization of carbon-saturated iron using an oxidizing slag. Thermodynamics of chromium oxides in CaO-SiO ₂ -CaF ₂ slag.	23-29B 111-118B 131-136B	Dislocation density, Deformation effects	Microstructural evolution during creep of single-phase gamma TiAl. New grain formation during warm deformation of ferritic stainless steel.	99-104A 161-167A
Desorption	Desorption kinetics of carbon and oxygen in liquid niobium.	1309-1314B	Dislocation mobility	Tensile properties and fracture toughness of a Ti-45Al-1.6Mn alloy at loading velocities of up to 12 m/s. High-temperature deformation behavior of the intermetallic Ti-47 at.% Al-3 at.% Cr alloy. Noncontact ultrasonic spectroscopy on deforming polycrystalline copper: dislocation damping and acoustoelasticity.	263-277A 1425-1430A 2987-2993A
Desulfurizing	Desulfurization behavior of molten copper alloy by a soda ash.	23-29B	Dislocation mobility, Deformation effects	Microstructural evolution during creep of single-phase gamma TiAl.	99-104A
Deuterium, Diffusion	Hydrogen and deuterium in Pd-25% Ag alloy: permeation, diffusion, solubilization, and surface reaction. Effect of dislocation trapping on deuterium diffusion in deformed, single-crystal Pd.	1023-1028A 1593-1598A	Dislocation pinning	Effect of dislocation trapping on deuterium diffusion in deformed, single-crystal Pd.	1593-1598A
Diamond pyramid hardness, Heating effects	Nanometer-scale, fully lamellar microstructure in an aged TiAl-based alloy.	2679-2685A	Dislocations	Discussion of error in the analysis of the wake dislocation problem. Growth of δ' on dislocations in a dilute Al-Li alloy.	1357-1360A 2073-2085A
Die forging	Ductilization of a powder metallurgy Al-17 wt.% Cu by means of channel-die compression and extrusion.	2613-2620A	Dislocations, Deformation effects	Strain-induced grain evolution in polycrystalline copper during warm deformation.	2957-2965A
Die steels, Thermal properties	The movement of the concave casting surface during mushy-type solidification and its effect on the heat-transfer coefficient.	1051-1056B	Dissimilar materials, Soldering	A diffusion-kinetic model for predicting solder/conductor interactions in high density interconnections.	2951-2956A
Differential equations	A diffusion solution for the melting/dissolution of a solid at constant temperature and its use for measuring the diffusion coefficient in liquids.	751-755A	Dissimilar metals, Brazing	Isothermal solidification kinetics of diffusion brazing.	315-325A
Diffractography	An x-ray Fourier line shape analysis in cold-worked hexagonal titanium base alloys.	2639-2642A	Dissimilar metals, Welding	A study of the structure of dissimilar submerged arc welds. Carbon migration in 5Cr-0.5Mo/21Cr-12Ni dissimilar metal welds.	823-832A 3037-3046A
Diffusion welding	Isothermal solidification kinetics of diffusion brazing.	315-325A	Dissolution	Kinetics studies on the dissolution of nitrogen in the CaO-Al ₂ O ₃ -SiO ₂ and CaO-Al ₂ O ₃ -TiO _x melts.	1235-1240B
Diffusivity	Combined refinement of diffusion coefficients applied on the Nb-C and Nb-N systems. A diffusion solution for the melting/dissolution of a solid at constant temperature and its use for measuring the diffusion coefficient in liquids. Interdiffusivities and mass transfer coefficients of NaF gas. Hydrogen and deuterium in Pd-25% Ag alloy: permeation, diffusion, solubilization, and surface reaction. A mathematical model for the solute drag effect on recrystallization. Effect of interfacial kinetic barriers on interface motion in binary diffusion couples. Interdiffusion in the carbides of the Nb-C system.	439-446A 751-755A 763-771B 1023-1028A 1029-1034A 2021-2032A 2717-2726A	Distillation	Distillation and rectification of osmium tetroxide solution in carbon tetrachloride.	293-295B
Diffusivity, Alloying effects	Molybdenum-tungsten interdiffusion and the influence on potassium bubbles in tungsten lamp wire.	2933-2939A	Distortion	Microstructural effects on distortion and solid-liquid segregation during liquid phase sintering under microgravity conditions.	857-866B
Diffusivity, Coating effects	Hydrogen uptake in titanium aluminides covered with oxide layers.	307-314A	Drawability, Heating effects	Increasing the drawability of AA2014 Al-Cu by differential heat treatment.	1405-1414A
Diffusivity, Microstructural effects	Effect of dislocation trapping on deuterium diffusion in deformed, single-crystal Pd. Growth of δ' on dislocations in a dilute Al-Li alloy.	1593-1598A 2073-2085A	Ductile brittle transition	Microstructures controlling the ductile crack growth resistance of low carbon steels.	279-287A
Diffusivity, Processing effects	Liquidlike sintering behavior of nanometric Fe and Cu powders: experimental approach.	2941-2949A	Ductile brittle transition, Diffusion effects	Gaseous hydrogen embrittlement of a hydrided zirconium alloy.	1047-1056A
Diffusivity, Temperature effects	Thermodynamic and kinetic properties of amorphous and liquid states.	1837-1843A	Ductile fracture	Test environments and mechanical properties of Zr-base bulk amorphous alloys. A theoretical investigation of the effect of material properties and cavity architecture/shape on ductile failure during the hot tension test. Numerical analysis of the formability of an aluminum 2024 alloy sheet and its laminates with steel sheets.	1811-1820A 2621-2630A 2829-2834A
Direct chill casting	The use of particle image velocimetry in the physical modeling of flow in electromagnetic or direct-chill casting of aluminum. I. Development of the physical model. The use of particle image velocimetry in the physical modeling of flow in electromagnetic or direct-chill casting of aluminum. II. Results of the physical model, including bag geometry, blockage, and nozzle placement.	1281-1288B 1289-1295B	Ductile fracture, Composition effects	Effects of R-ratio on the fatigue crack growth of Nb-Si(ss) and Nb-10Si in situ composites.	1749-1757A
			Ductile fracture, Deformation effects	Assessment of void growth models from porosity measurements in cold-drawn copper bars.	1895-1909A
			Ductile fracture, Microstructural effects	Microstructures controlling the ductile crack growth resistance of low carbon steels. Damage process in commercially pure α-titanium alloy without (Ti40) and with (Ti40-H) hydrides.	279-287A 1615-1628A

Ductility, Coating effects

The effect of heat input on the microstructure and properties of nickel aluminum bronze laser clad with a consumable of composition Cu-9.0Al-4.6Ni-3.9Fe-1.2Mn.

1677-1690A

Ductility, Composition effects

Al-TiC composites in situ-processed by ingot metallurgy and rapid solidification technology. II. Mechanical behavior.

893-902A

Ductility, Deformation effects

Plastic instability during creep deformation of a NiAl-Hf single-crystal alloy—a case study.

179-189A

Ductility, High temperature effects

Warm-temperature tensile ductility in Al-Mg alloys.

1081-1091A

Ductility, Impurity effects

Hydrogen uptake in titanium aluminides covered with oxide layers.

307-314A

Ductility, Microstructural effects

Supertransus processing of TiAl-based alloys.

27-36A

Mechanical properties, ductility, and grain size of nanocrystalline iron produced by mechanical attrition.

2285-2295A

Ductility, Processing effects

Control of interfacial reactions during liquid phase processing of aluminum matrix composites reinforced with Inconel 601 fibers.

1727-1739A

Effect of B on the microstructure and mechanical properties of mechanically milled TiAl alloys.

2273-2283A

Ductility, Welding effects

Properties of friction-stir-welded 7075 T651 aluminum.

1955-1964A

Dump leaching

Bioleaching model of a copper-sulfide ore bed in heap and dump configurations.

899-909B

Duplex stainless steels, Mechanical properties

Microstructural and mechanical behavior of a duplex stainless steel under hot working conditions.

2975-2986A

Dysprosium, Binary systems

Experimental investigation on the enthalpies of formation of the Dy₂Fe₁₇, Er₂Fe₁₇, and ErFe₃ intermetallic compounds.

1367-1374A

Eddy currents, Field effects

Surface-coupled modeling of magnetically confined liquid metal in three-dimensional geometry.

275-281B

Edge dislocations

Atomistic simulation of fracture in TiAl.

951-955A

Dynamic interaction between a coherent precipitate and an edge dislocation.

2039-2048A

Elastic anisotropy

Behavior and rupture of hydrided Zircaloy-4 tubes and sheets. The Knoop-hardness yield locus of an orthorhombic titanium aluminide alloy.

1643-1651A

Experimental and theoretical studies of the superposition of intergranular and macroscopic strains in Ni-based industrial alloys.

1763-1765A

Elastic constants, Temperature effects

Metastability and thermophysical properties of metallic bulk glass forming alloys.

2967-2973A

1829-1835A

Elastic deformation

Test environments and mechanical properties of Zr-base bulk amorphous alloys.

1811-1820A

Compressive deformation and energy absorbing characteristic of foamed aluminum.

2497-2502A

Elastic deformation, Microstructural effects

Experimental and theoretical studies of the superposition of intergranular and macroscopic strains in Ni-based industrial alloys.

2967-2973A

Electric batteries, Service life

Mitigating intergranular attack and growth in lead-acid battery electrodes for extended cycle and operating life.

387-396A

Electric connectors, Soldering

A diffusion-kinetic model for predicting solder/conductor interactions in high density interconnections.

2951-2956A

Electric potential

Peltier effects in electrode carbon.

69-76B

Transport phenomena in electric smelting of nickel matte. I. Electric potential distribution.

77-83B

Transport phenomena in electric smelting of nickel matte. II. Mathematical modeling.

85-94B

Electric wire, Diffusion

Molybdenum-tungsten interdiffusion and the influence on potassium bubbles in tungsten lamp wire.

2933-2939A

Electrodes, Materials selection

Measurement of pH in the vicinity of a cathode during the chloride electrowinning of nickel.

1193-1198B

Electrodes, Mechanical properties

Mitigating intergranular attack and growth in lead-acid battery electrodes for extended cycle and operating life.

387-396A

Electrolytes, Reactions (chemical)

On the calculation of ionic equilibria using the Gibbs energy minimization method.

1372-1374B

Electrolytic cells, Automation

Predictive control of aluminum electrolytic cells using neural networks.

1007-1019B

Electromagnetic fields

Effect of processing conditions on drop behavior in an electromagnetic levitator.

223-228B

An investigation of the effects caused by electromagnetic vibrations in a hypereutectic Al-Si alloy melt.

1477-1484A

Electrometallurgy

Electrochemical characterization of copper deposited on plasma and thermally modified titanium surfaces.

749-754B

Electron beam processing, Russia

An overview of some advanced surface technology in Russia.

593-610A

Electron microscopy

The role of nanosized particles. A frontier in modern materials science, from nanoelectronics to environmental problems.

713-725A

Electronic structure

Electronic structure and related properties of metallic glasses: linear muffin-tin orbital approach.

1853-1863A

Electronic structure, Cooling effects

Ab initio studies of the electronic structure and energetics of bulk amorphous metals.

1845-1851A

Electrorefining

Fundamental studies of copper anode passivation during electrorefining. III. The effect of thiourea.

53-58B

Electroslag refining

Selective oxidation of copper from liquid copper-silver alloys.

39-51B

Electrowinning

The acid-base behavior of zinc sulfate electrolytes: the temperature effect.

1157-1166B

Measurement of pH in the vicinity of a cathode during the chloride electrowinning of nickel.

1193-1198B

Enthalpy

Physical constants, deformation twinning, and microcracking of titanium aluminides.

49-63A

Standard enthalpies of formation for some samarium alloys, Sm+Me (Me=Ni, Rh, Pd, Pt), determined by high-temperature direct synthesis calorimetry.

815-820B

Evaluation of hydrogen-trap binding enthalpy. II. Experimental investigation on the enthalpies of formation of the Dy₂Fe₁₇, Dy₂Fe₁₇, Er₂Fe₁₇, and ErFe₃ intermetallic compounds.

1017-1021A

Thermodynamic properties and phase equilibria for Pt-Rh alloys.

1367-1374A

Entropy

Thermodynamic properties and phase equilibria for Pt-Rh alloys.

1545-1550A

Equal channel angular pressing, Composition effects

Factors influencing the equilibrium grain size in equal-channel angular pressing: role of Mg additions to aluminum.

2503-2510A

Equiaxed structure

Fundamental aspects of fatigue and fracture in a TiAl sheet alloy.

73-87A

Structural transition and macrosegregation of Al-Cu eutectic alloy solidified in the electromagnetic centrifugal casting process.

404-408A

Relationship between fracture toughness and crack extension resistance curves (R curves) for Ti-6Al-4V alloys.

781-789A

Microstructural development and creep deformation in equiaxed γ , $\gamma+\alpha_2$, and $\gamma+\alpha_2+B2$ titanium aluminides.

965-978A

An observation on microstructure of a casting Zn-40 wt % Al alloy.

2477-2481A

Equiaxed structure, Composition effects

Observations of the columnar-to-equiaxed transition in stainless steels.

855-861A

Equiaxed structure, Deformation effects

Microstructural characteristics of 5083 Al alloys processed by reactive spray deposition for net-shape manufacturing.

2597-2611A

Equiaxed structure, Heating effects

Microstructure and creep behavior of an orthorhombic Ti-25Al-17Nb-1Mo alloy.

559-564A

Equilibrium

On the calculation of ionic equilibria using the Gibbs energy minimization method.

1372-1374B

Erbiun, Binary systems

Experimental investigation on the enthalpies of formation of the Dy₂Fe₁₇, Dy₂Fe₁₇, Er₂Fe₁₇, and ErFe₃ intermetallic compounds.

1367-1374A

Erosion rate, Composition effects	Solid particle erosion of an Fe-Fe ₃ C metal matrix composite.	1071-1079A	Fatigue life, Microstructural effects	The influence of crystallographic orientation and strain rate on the high-temperature low-cyclic fatigue property of a nickel-base single-crystal superalloy.	1093-1099A
Erosion resistance, Composition effects	Solid particle erosion of an Fe-Fe ₃ C metal matrix composite.	1071-1079A	Fatigue life, Stress effects	The effect of environment on high-temperature hold time fatigue behavior of annealed 2.25Cr-1Mo steel.	2137-2145A
Eutectoid decomposition	Evolution and thermal stability of Ni ₃ V and Ni ₂ V phases in a Ni-29 at.% V alloy.	1883-1894A	Fatigue strength, Composition effects	Effect of SiC volume fraction and particle size on the fatigue resistance of a 2080 Al/SiC _p composite.	2843-2854A
Eutectoid reactions	The divorced eutectoid transformation in steel.	1181-1189A	Fatigue strength, Deformation effects	Effect of deformation temperature on fatigue and fracture behavior in TiAl polysynthetically twinned crystals.	943-950A
Extractive metallurgy	Modeling of multi gas-solid reactions; effect of bulk environment parameters on solid conversion.	229-238B	Fatigue tests	Use of the nanoindentation technique for studying microstructure/crack interactions in the fatigue of 4340 steel.	3029-3036A
	A kinetic model of the Peirce-Smith converter. I. Model formulation and validation.	239-249B	Ferrite, Composition effects	A new equation for the Cr equivalent in 9 to 12% Cr steels.	1573-1578A
	A kinetic model of the Peirce-Smith converter. II. Model application and discussion.	251-259B	Ferrite, Crystal growth	Upper acicular ferrite formation in a medium-carbon microalloyed steel by isothermal transformation: nucleation enhancement by CuS.	1003-1015A
Extrusion	Processing and mechanical properties of magnesium-lithium composites containing steel fibers.	863-873A		Effect of ferrite formation on abnormal austenite grain coarsening in low-alloy steels during the hot rolling process.	1375-1381A
	Ductilization of a powder metallurgy Al-17 wt.% Cu by means of channel-die compression and extrusion.	2613-2620A		Transformation during the isothermal deformation of low-carbon Nb-B steels.	1383-1394A
Extrusion, Composition effects	Evolution of microstructure and tensile strength of rapidly solidified Al-4.7% Zn-2.5% Mg-0.2% Zr-X wt.% Mn alloys.	1873-1882A		A transmission electron microscope study of 1% Mn ductile iron with different austempering treatments.	2297-2306A
Extrusions, Coating	On the nature of the Fe-bearing particles influencing hard anodizing behavior of AA 7075 extrusion products.	979-987A	Ferritic stainless steels, Metal working	Formability of stainless steel.	2161-2172A
Extrusions, Welding	Autogenous gas tungsten arc weldability of cast alloy Ti-48Al-2Cr-2Nb (at.%) versus entruded alloy Ti-46Al-2Cr-2Nb-0.9Mo (at.%).	927-935A	Ferritic stainless steels, Microstructure	New grain formation during warm deformation of ferritic stainless steel.	161-167A
	Failure	Failure of SiC particulate-reinforced metal matrix composites induced by laser thermal shock.	685-692A	Observations of the columnar-to-equiaxed transition in stainless steels.	855-861A
Fatigue (materials)	Cyclic deformation behavior of high-purity titanium single crystals. I. Orientation dependence of stress-strain response.	507-512A	Ferritic stainless steels, Phases (state of matter)	Microstructural characterization of 5 to 9% Cr-2% W-V-Ta martensitic steels.	1551-1558A
	Cyclic deformation behavior of high-purity titanium single crystals. II. Microstructure and mechanism.	513-518A	Ferritic stainless steels, Rolling	Sticking mechanism during hot rolling of two stainless steels.	700-705A
Fatigue failure	Deformation structure and subsurface fatigue crack generation in austenitic steels at low temperature.	809-822A	Ferritic stainless steels, Welding	Carbon migration in 5Cr-0.5Mo/21Cr-12Ni dissimilar metal welds.	3037-3046A
	Discussion of error in the analysis of the wake dislocation problem.	1357-1360A	Ferromagnetic materials, Casting	Ferromagnetic bulk amorphous alloys.	1779-1793A
	Visual simulation of fatigue crack growth.	1923-1931A	Ferromanganese, Reduction (chemical)	Thermodynamic model for MnO-containing slags and gas-slag-metal equilibrium in ferromanganese smelting.	1181-1191B
	A model for roughness-induced fatigue crack closure.	1933-1939A	Ferromanganese, Steel making	Thermodynamic assessment of liquid Fe-Mn-C system.	397-403B
Fatigue failure, Composition effects	Effects of R-ratio on the fatigue crack growth of Nb-Si(ss) and Nb-10Si in situ composites.	1749-1757A	Ferrosilicon, Reactions (chemical)	Reactive phosphide inclusions in commercial ferrosilicon.	325-329B
	An investigation of the fracture and fatigue crack growth behavior of forged damage-tolerant niobium aluminide intermetallics.	2361-2374A	Ferrous alloys, Casting	Ferromagnetic bulk amorphous alloys.	1779-1793A
Fatigue failure, Environmental effects	Environment-sensitive closure and fatigue crack propagation behavior of Al 2090.	2583-2590A	Ferrous alloys, Mechanical properties	Effect of matrix constitutive behavior and inclusions on forming limits of Fe-42% Ni alloy sheet.	289-298A
Fatigue failure, Heating effects	Interface-controlled fatigue cracking of SCS-6/Ti-22Al-23Nb "orthorhombic" titanium aluminide composite.	2737-2746A		Grain boundary cracking.	509-518B
	Use of the nanoindentation technique for studying microstructure/crack interactions in the fatigue of 4340 steel.	3029-3036A		Effect of Ni on vacancy concentrations and hardness in FeAl alloys.	1911-1915A
Fatigue failure, Microstructural effects	Fundamental aspects of fatigue and fracture in a TiAl sheet alloy.	73-87A		Mechanical behavior of a bulk nanostructured iron alloy.	2261-2271A
	Characterizations of pore and constituent particle populations in 7050-T7451 aluminum plate alloys.	727-737A	Ferrous alloys, Phase transformations	Grain boundary precipitation reactions in a wrought Fe-8Al-5Ni-2C alloy prepared by the conventional ingot process.	696-700A
	Effects of test temperature on internal fatigue crack generation associated with nonmetallic particles in austenitic steels.	3017-3028A		The γ - ϵ -martensitic transformation and its reversion in the FeMnSiCrNi shape-memory alloy.	1579-1583A
Fatigue failure, Stress effects	Effect of small loads on crack growth rate and crack tip deformation in the fatigue process of A537 steel.	401-403A	Ferrous alloys, Powder technology	Modeling of porosity during spray forming: I. Effects of processing parameters.	1085-1096B
	Influence of residual stresses and loading frequencies on corrosion fatigue crack growth behavior of weldments.	1289-1298A		Modeling of porosity during spray forming: II. Effects of atomization gas chemistry and alloy compositions.	1097-1106B
	The effects of residual macrostresses and microstresses on fatigue crack propagation.	2127-2136A	Ferrous alloys, Welding	A combined solubility product/new PHACOMP approach for estimating temperatures of secondary solidification reactions in superalloy weld metals containing Nb and C.	1449-1456A
Fatigue life	Some observations on cyclic deformation structures in the high-strength commercial aluminum alloy AA 7150.	2727-2736A		Improving the weldability and service performance of nickel- and iron-based superalloys by grain boundary engineering.	3069-3079A
	Thermomechanical fatigue behavior of the high-temperature titanium alloy IMI 834.	2995-3004A	Fiber composites, Casting	Titanium preconditioning of Al ₂ O ₃ for liquid-state processing of Al-Al ₂ O ₃ composite materials.	327-337A
Fatigue life, Deformation effects	Effect of deformation temperature on fatigue and fracture behavior in TiAl polysynthetically twinned crystals.	943-950A			

Fiber composites, Mechanical properties**Volume 29**

Dynamic analysis of unidirectional pressure infiltration of porous preforms by pure metals.	377-385A	II. Results of the physical model, including bag geometry, blockage, and nozzle placement.	1289-1295B
Strength degradation of sapphire fibers during pressure casting of a sapphire-reinforced Ni-base superalloy.	1527-1530A	Numerical investigation of the interface in a continuous steel casting mold water model.	1321-1327B
Control of interfacial reactions during liquid phase processing of aluminum matrix composites reinforced with Inconel 601 fibers.	1727-1739A	Fluid flow, Processing effects The free-surface shape and temperature distribution produced in liquid metal droplets by heating coil pulses in the TEMPUS electromagnetic levitation facility.	1127-1134B
Fiber composites, Mechanical properties	863-873A	Fluidized beds, Reactions (chemical) Mathematical modeling of the reduction process of iron ore particles in two stages of twin-fluidized beds connected in series.	1107-1115B
Processing and mechanical properties of magnesium-lithium composites containing steel fibers.	1127-1135A	Fluxes, Solubility The influence of basicity on the solubility of platinum in oxide melts.	411-414B
Thermomechanical behavior of TiNi shape memory alloy fiber reinforced 6061 aluminum matrix composite.	1499-1507A	Fluxes, Surface properties Interfacial tension between aluminum and NaCl-KCl-based salt systems.	821-827B
Fiber fragmentation during processing of metallic matrix composites.	1983-1989A	Fluxing Chlorine fluxing for removal of magnesium from molten aluminum: I. Laboratory-scale measurements of reaction rates and bubble behavior.	971-978B
Creep rupture life prediction of short fiber-reinforced metal matrix composites.	2195-2203A	Chlorine fluxing for removal of magnesium from molten aluminum: II. Mathematical model.	979-986B
Correlation between the cold-working and aging treatments in a Cu-15 wt.% Cr <i>in situ</i> composite.	2543-2554A	Fly ash, Composite materials Chemical reactions between aluminum and fly ash during synthesis and reheating of Al-fly ash composite.	519-525B
Mechanical property and fracture behavior of squeeze-cast Mg matrix composites.	2737-2746A	Fly ash, Reactions (chemical) Factors affecting the immobilization of metals in geopolymersized flyash.	283-291B
Interface-controlled fatigue cracking of SCS-6/Ti-22Al-23Nb "orthorhombic" titanium aluminide composite.	693-696A	Foamed metals, Diffusion Effect of oxidation treatment and surface filming on hydrogen degassing from TiH ₂ .	1315-1319B
Fiber composites, Phase transformations	1347-1355A	Foamed metals, Mechanical properties Compressive deformation and energy absorbing characteristic of foamed aluminum.	2497-2502A
Microstructural characterization of the matrix in the SiC fiber-reinforced Ti-15-3 composite.	1499-1507A	Forgings, Heat treatment Phase transformation behavior of gamma titanium aluminide alloys during supertransus heat treatment.	7-18A
Fiber composites, Reactions (chemical)	1527-1530A	Formability Crystal plasticity forming limit diagram analysis of rolled aluminum sheets.	527-535A
Experimental approaches to simulating interfacial reactions in metal matrix composites.	587-592A	Formability of stainless steel.	2161-2172A
Fibers, Mechanical properties	617-630A	Numerical analysis of the formability of an aluminum 2024 alloy sheet and its laminates with steel sheets.	2829-2834A
Fiber fragmentation during processing of metallic matrix composites.	659-664A	Formability, Microstructural effects Effect of matrix constitutive behavior and inclusions on forming limits of Fe-42% Ni alloy sheet.	289-298A
Strength degradation of sapphire fibers during pressure casting of a sapphire-reinforced Ni-base superalloy.	957-964A	Forming Formability of stainless steel.	2161-2172A
Finite element method	1117-1126B	Analysis of ridging in aluminum auto body sheet metal.	2323-2332A
A novel approach for predicting the tensile strength of brazed joints.	1405-1414A	Foundry practice Fluid flow in casting rigging systems: modeling, validation, and optimal design.	679-690B
Numerical simulation of macrosegregation: a comparison between finite volume method and finite element method predictions and a confrontation with experiments.	1485-1498A	Fractography A study on fractography in the low-temperature brittle fracture of an 18Cr-18Mn-0.7N austenitic steel.	791-798A
Finite element modeling of distortion during liquid phase sintering.	2001-2009A	Fracture strength, Composition effects Fracture toughness and R-curve behavior of laminated brittle-matrix composites.	2483-2496A
Finite element analysis of cavitating facet interaction in a fully lamellar titanium aluminide alloy under creep conditions.	2323-2332A	Fracture strength, Deformation effects Processing-property-microstructure relationships in TiAl-based alloys.	919-925A
Numerical investigation of the free surface in a continuous steel casting mold model.	2407-2424A	Effect of deformation temperature on fatigue and fracture behavior in TiAl polysynthetically twinned crystals.	943-950A
Increasing the drawability of AA2014 Al-Cu by differential heat treatment.	429-436B	Fracture strength, Welding effects Properties of friction-stir-welded 7075 T651 aluminum.	1955-1964A
Analytical/finite-element modeling and experimental verification of spray-cooling process in steel.	773-784B	Fracture testing Use of the nanoindentation technique for studying microstructure/crack interactions in the fatigue of 4340 steel.	3029-3036A
Dependence of thermal residual stress on temperature in a SiC particle-reinforced 6061 Al alloy.	993-1006B	Fracture toughness Damage mechanisms in a cast ductile iron and a Al ₂ O ₃ p/Al composite.	2855-2862A
Analysis of ridging in aluminum auto body sheet metal.	1329-1343B	Fracture toughness, Alloying effects Effect of Y, Sr, and Nd additios on the microstructure and microfracture mechanism of squeeze-cast AZ91-X magnesium alloys.	1221-1235A
Investigation of thermomechanical behavior of a work roll and of roll life in hot strip rolling.	911-917B	Fracture toughness, Composition effects Microstructure and mechanical behavior of reaction hot-pressed titanium silicide and titanium silicide-based alloys and composites.	1629-1641A
Flash smelting	1149-1156B		
Hennian activity coefficient of Pb in Cu-Fe mattes and white metal.	1199-1207E		
Modeling studies of fluid flow below flash-smelting burners including transient behavior.	569-575B		
Experimental and mathematical investigation of the fluid flow inside and below a 1/4 scale air model of a flash smelting burner.	679-690B		
Evaluation of nickel flash smelting through piloting and simulation.	773-784B		
Flotation	931-935B		
Numerical and experimental study of a hydrodynamic cavitation tube.	993-1006B		
Beneficiation of West Sibaiya phosphate ores by flotation in alkaline media.	1281-1288B		
Fluid dynamics			
Gas flow analysis in melting furnaces.			
Fluid flow			
Mixing time and fluid flow phenomena in liquids of varying kinematic viscosities agitated by bottom gas injection.			
Fluid flow in casting rigging systems: modeling, validation, and optimal design.			
Modeling studies of fluid flow below flash-smelting burners including transient behavior.			
Decay of fluid motion in a filling ladle after tapping.			
Experimental and mathematical investigation of the fluid flow inside and below a 1/4 scale air model of a flash smelting burner.			
The use of particle image velocimetry in the physical modeling of flow in electromagnetic or direct-chill casting of aluminum. I. Development of the physical model.			
The use of particle image velocimetry in the physical modeling of flow in electromagnetic or direct-chill casting of aluminum.			

Fracture toughness and R-curve behavior of laminated brittle-matrix composites.	2483-2496A	Gas flow Gas flow analysis in melting furnaces.	1199-1207B
Mechanical property and fracture behavior of squeeze-cast Mg matrix composites.	2543-2554A	Gas metal arc welding Charpy V-notch properties and microstructures of narrow gap ferritic welds of a quenched and tempered steel plate.	2775-2784A
Fracture toughness, Deformation effects		Gas tungsten arc welding Autogenous gas tungsten arc weldability of cast alloy Ti-4Al-2Cr-2Nb (at.%) versus extruded alloy Ti-46Al-2Cr-2Nb-0.9Mo (at.%).	927-935A
Tensile properties and fracture toughness of a Ti-4Al-1.6Mn alloy at loading velocities of up to 12 m/s.	263-277A	Spatially resolved x-ray diffraction phase mapping and $\alpha \rightarrow \beta \rightarrow \alpha$ transformation kinetics in the heat-affected zone of commercially pure titanium arc welds.	2761-2773A
Fracture toughness, Heating effects		Germanium compounds, Microstructure Strain-induced self-organization of steps and islands in SiGe/Si multilayer films.	2111-2119A
The effect of carbide precipitation on the hydrogen-enhanced fracture behavior of alloy 690.	1265-1277A	Glass transition temperature Metastability and thermophysical properties of metallic bulk glass forming alloys.	1829-1835A
Microstructural evaluation of Ti-6-22-22 alloy.	1585-1592A	Glass transition temperature, Temperature effects Thermodynamic and kinetic properties of amorphous and liquid states.	1837-1843A
Optimization of the strength-fracture toughness relation in particulate-reinforced aluminum composites via control of the matrix microstructure.	2433-2446A	Glissile dislocations Microstructural development and creep deformation in equiaxed γ , $\gamma+\alpha_2$, and $\gamma+\alpha_2+B2$ titanium aluminides.	965-978A
Dependence of fracture toughness of austempered ductile iron on austempering temperature.	3005-3016A	High-temperature deformation behavior of the intermetallic Ti-47 at.% Al-3 at.% Cr alloy.	1425-1430A
Fracture toughness, Microstructural effects		Gold, Casting The free-surface shape and temperature distribution produced in liquid metal droplets by heating coil pulses in the TEMPUS electromagnetic levitation facility.	1127-1134B
Supertransus processing of TiAl-based alloys.	27-36A	Gold, Surface properties Surface tension measurements on liquid metals in microgravity.	1031-1035B
Relationship between fracture toughness and crack extension resistance curves (R curves) for Ti-6Al-4V alloys.	781-789A	Gold base alloys, Casting The free-surface shape and temperature distribution produced in liquid metal droplets by heating coil pulses in the TEMPUS electromagnetic levitation facility.	1127-1134B
Relationship between fracture toughness, fracture path, and microstructure of 7050 aluminum alloy. I. Quantitative characterization.	1191-1201A	Gold base alloys, Mechanical properties Grain boundary cracking.	509-518B
Relationship between fracture toughness, fracture path, and microstructure of 7050 aluminum alloy. II. Multiple micro-mechanisms-based fracture toughness model.	1203-1210A	Gold base alloys, Surface properties Surface tension measurements on liquid metals in microgravity.	1031-1035B
Influence of casting size and graphite nodule refinement on fracture toughness of austempered ductile iron.	2511-2521A	Gold compounds, Casting The free-surface shape and temperature distribution produced in liquid metal droplets by heating coil pulses in the TEMPUS electromagnetic levitation facility.	1127-1134B
Fracture toughness, Shape effects		Grain boundaries Mitigating intergranular attack and growth in lead-acid battery electrodes for extended cycle and operating life.	387-396A
Effects of thickness and precracking on the fracture toughness of particle-reinforced Al-alloy composites.	1237-1243A	Grain boundary segregation of boron in Inconel 718.	1947-1954A
Fracture toughness, Temperature effects		Effect of ordering energy and stoichiometry in $\Sigma=5$ boundaries in B2 compounds.	2655-2668A
Temperature-dependent void-sheet fracture in Al-Cu-Mg-Ag-Zr.	1599-1613A	Improving the weldability and service performance of nickel- and iron-based superalloys by grain boundary engineering.	3069-3079A
Fracturing, Alloying effects		Grain boundaries, Deformation effects Microtexture evolution during annealing and superplastic deformation of Al-5% Ca-5% Zn.	485-492A
Effects of Co and Ni on secondary hardening and fracture behavior of martensitic steels bearing W and Cr.	397-401A	Effect of ferrite formation on abnormal austenite grain coarsening in low-alloy steels during the hot rolling process.	1375-1381A
Fracturing, Corrosion effects		Grain boundaries, Diffusion Chemical stresses induced by grain-boundary diffusion.	2121-2125A
Effect of pitting corrosion in NaCl solutions on the statistics of fracture of beryllium.	2753-2760A	Grain boundary migration A mathematical model for the solute drag effect on recrystallization.	1029-1034A
Fracturing, Microstructural effects		Grain boundary sliding Quantitative analysis on boundary sliding and its accommodation mode during superplastic deformation of two-phase Ti-6Al-4V alloy.	217-226A
Atomistic simulation of fracture in TiAl.	951-955A	Grain growth The sweep constant concept in phase coarsening.	2395-2398A
Effect of tungsten particle shape on dynamic deformation and fracture behavior of tungsten heavy alloys.	1057-1069A	Grain growth and carbide precipitation in superalloy, UDIMET 520.	2687-2695A
Fragmentation, Processing effects		<110> dendrite growth in aluminum feathery grains.	2807-2817A
Fiber fragmentation during processing of metallic matrix composites.	1499-1507A	Modeling grain growth dependence on the liquid content in liquid-phase-sintered materials.	3057-3067A
Free energy		Grain growth, Cryogenic effects Grain growth of nanocrystalline cryomilled Fe-Al powders.	2469-2475A
Electrochemical determination of Gibbs energy of formation of NiTiO_3 (ilmenite).	31-38B	Grain growth, Deformation effects Effect of ferrite formation on abnormal austenite grain coarsening in low-alloy steels during the hot rolling process.	1375-1381A
A mathematical model for the solute drag effect on recrystallization.	1029-1034A	Microstructural characteristics of 5083 Al alloys processed by reactive spray deposition for net-shape manufacturing.	2597-2611A
On the calculation of ionic equilibria using the Gibbs energy minimization method.	1372-1374B		
Thermodynamic properties and phase equilibria for Pt-Rh alloys.	1545-1550A		
Friction welding			
Properties of friction-stir-welded 7075 T651 aluminum.	1955-1964A		
Frictional wear			
Sliding wear response of a zinc-based alloy compared to a copper-based alloy.	1245-1255A		
Frictional wear, Composition effects			
Dry sliding wear of a $\text{Ti}_{50}\text{Ni}_{25}\text{Cu}_{25}$ particulate-reinforced aluminum matrix composite.	1741-1747A		
Sliding wear behavior of some Al-Si alloys: role of shape and size of Si particles and test conditions.	2747-2752A		
Fused salts, Reactions (chemical)			
Titanium powder production by TiCl_4 gas injection into magnesium through molten salts.	1167-1174B		
Galena, Beneficiation			
Model for the ferric chloride leaching of galena.	953-960B		
Galvanized steels, Coating			
Solidification and spangle formation of hot-dip-galvanized zinc coatings.	631-646A		
Galvanizing			
Surface segregation of phosphorus, carbon, and sulfur in commercial low-carbon grades of steel.	2707-2715A		
Gamma iron, Solubility			
Solubility of bismuth in γ -iron.	1371-1372B		
Gas evolution			
Effect of dislocation trapping on deuterium diffusion in deformed, single-crystal Pd.	1593-1598A		

Grain growth, Stress effects**Grain growth, Stress effects**

Stress-assisted transformation in Ti-60 wt.% Ta alloys.

139-147A

Grain refinement

Fundamental studies of copper anode passivation during electrorefining. III. The effect of thiourea.

53-58B

Influence of casting size and graphite nodule refinement on fracture toughness of austempered ductile iron.

2511-2521A

Grain refinement, Alloying effects

Grain refining of Al-4.5Cu alloy by adding an Al-30TiC master alloy.

1707-1710A

Grain refinement, Deformation effects

Optimizing the rotation conditions for grain refinement in equal-channel angular pressing.

2011-2013A

Grain size

The role of grain size and selected microstructural parameters in strengthening fully lamellar TiAl alloys.

37-47A

Relationship between fracture toughness, fracture path, and microstructure of 7050 aluminum alloy. II. Multiple micro-mechanisms-based fracture toughness model.

1203-1210A

A study of superplasticity in a modified 5083 Al-Mg-Mn alloy. An examination of the interparticle contact area during sintering of W-0.3 wt.% Co.

1211-1220A

Fabrication of bulk ultrafine-grained materials through intense plastic straining.

1309-1317A

On the relation between the number-weighted and volume-weighted grain volume distribution parameters.

2237-2243A

Grain size, Composition effects

Factors influencing the equilibrium grain size in equal-channel angular pressing: role of Mg additions to aluminum.

3081-3086A

Grain size, Deformation effects

Grain size estimation in anisotropic materials.

2503-2510A

Microstructural evolution during the austenite-to-ferrite transformation from deformed austenite.

237-244A

Microstructural characteristics of ultrafine-grained aluminum produced using equal-channel angular pressing.

417-426A

Microstructures and properties of nanocomposites obtained through SPTS consolidation of powders.

2245-2252A

Grain size, Processing effects

Mechanical properties, ductility, and grain size of nanocrystalline iron produced by mechanical attrition.

2253-2260A

Transmission electron microscope specimen preparation of Zn powders using the focused ion beam lift-out technique.

2285-2295A

Grain structureEffect of ordering energy and stoichiometry in $\Sigma=5$ boundaries in B2 compounds.

2399-2406A

On the relation between the number-weighted and volume-weighted grain volume distribution parameters.

2655-2668A

Grain structure, Alloying effects

Effect of Y, Sr, and Nd additions on the microstructure and microfracture mechanism of squeeze-cast AZ91-X magnesium alloys.

3081-3086A

Grain structure, Deformation effects

New grain formation during warm deformation of ferritic stainless steel.

1221-1235A

Strain-induced grain evolution in polycrystalline copper during warm deformation.

161-167A

Microstructural and mechanical behavior of a duplex stainless steel under hot working conditions.

2957-2965A

Grain structure, Heating effects

Microstructural evaluation of Ti-6-22-22 alloy.

1585-1592A

Graphite, Reactions (chemical)

Influence of melt carbon and sulfur on the wetting of solid graphite by Fe-C-S melts.

471-477B

Graphitic structure, Heating effects

Controlled graphitization as a potential option for improving wear resistance of unalloyed white irons.

2147-2159A

Graphitization, Heating effects

Controlled graphitization as a potential option for improving wear resistance of unalloyed white irons.

2147-2159A

Gravitation

The effect of gravity on the combustion synthesis of metal-ceramic composites.

889-897B

The unidirectional solidification of Al-4 wt.% Cu ingots in microgravity.

1101-1111A

The influence of gravity-related convection on secondary arm evolution in $\text{NH}_4\text{Cl}-\text{H}_2\text{O}$.

1137-1139A

Grinding

Comparison of grinding kinetics between a typical ball mill and a ball mill fitted with a breaker plate.

17-22B

Guinier Preston zoneHigh-resolution electron microscopy on the structure of Guinier-Preston zones in an Al-1.6 mass% Mg_2Si alloy.

1161-1167A

Hafnium, Alloying elements

Plastic instability during creep deformation of a NiAl-Hf single-crystal alloy—a case study.

179-189A

Ir-base refractory superalloys for ultra-high temperatures.

537-549A

Hafnium, Heat treatment

Investigation of the annealing texture evolution in hafnium.

757-764A

Hafnium compounds, Composite materialsCombustion synthesis of HfB_2 -Al composites.

877-887B

The effect of gravity on the combustion synthesis of metal-ceramic composites.

889-897B

Hall Heroult process

A porous titanium diboride composite cathode coating for Hall-Héroult cells. I. Thin coatings.

59-67B

Pellet effects in electrode carbon.

69-76B

Hard anodizing, Impurity effects

On the nature of the Fe-bearing particles influencing hard anodizing behavior of AA 7075 extrusion products.

979-987A

Hardening

A computational model for the prediction of steel hardenability.

661-672B

Hardening, Heating effects

Effect of prestrain on aging and bake hardening of cold-rolled, continuously annealed steel sheets.

463-467A

Hardness, Alloying effects

Effects of Co and Ni on secondary hardening and fracture behavior of martensitic steels bearing W and Cr.

397-401A

Microstructure and properties of Cu-C pseudoalloy films prepared by sputter deposition.

647-658A

Effect of Ni on vacancy concentrations and hardness in FeAl alloys.

1911-1915A

Hardness, Composition effects

Microstructure and mechanical behavior of reaction hot-pressed titanium silicide and titanium silicide-based alloys and composites.

1629-1641A

Hardness, Heating effects

Age hardening and the potential for superplasticity in a fine-grained Al-Mg-Li-Zr alloy.

169-177A

A computational model for the prediction of steel hardenability.

661-672B

The effect of heat input on the microstructure and properties of nickel aluminum bronze laser clad with a consumable of composition Cu-9.0Al-4.6Ni-3.9Fe-1.2Mn.

1677-1690A

Hardness, Processing effects

Correlation between the cold-working and aging treatments in a Cu-15 wt.% Cr in situ composite.

2195-2203A

Hardness, Welding effects

A study of the structure of dissimilar submerged arc welds.

823-832A

Heap leaching

Bioleaching model of a copper-sulfide ore bed in heap and dump configurations.

899-909B

Heat affected zone, Mechanical properties

Brittle fracture initiation associated with the strain localization in a heat-affected zone of a low carbon steel.

551-558A

Properties of friction-stir-welded 7075 T651 aluminum.

1955-1964A

Improving the weldability and service performance of nickel- and iron-based superalloys by grain boundary engineering.

3069-3079A

Heat affected zone, Oxidation

Role of microstructural degradation in the heat-affected zone of 2.25Cr-1Mo steel weldments on subscale features during steam oxidation and their role in weld failures.

577-586A

Heat affected zone, Phase transformations

A combined solubility product/new PHACOMP approach for estimating temperatures of secondary solidification reactions in superalloy weld metals containing Nb and C.

1449-1456A

Spatially resolved x-ray diffraction phase mapping and $\alpha \rightarrow \beta \rightarrow \alpha$ transformation kinetics in the heat-affected zone of commercially pure titanium arc welds.

2761-2773A

Heat of adsorption

Evaluation of hydrogen-trap binding enthalpy. II.

1017-1021A

Hydrogen and deuterium in Pd-25% Ag alloy: permeation, diffusion, solubilization, and surface reaction.

1023-1028A

Heat of formationElectrochemical determination of Gibbs energy of formation of NiTiO_3 (ilmenite).

31-38B

Physical constants, deformation twinning, and microcracking of titanium aluminides.

49-63A

Standard enthalpies of formation for some samarium alloys, Sm+Me (Me=Ni, Rh, Pd, Pt), determined by high-temperature direct synthesis calorimetry.

815-820B

Experimental investigation on the enthalpies of formation of the DyFe_2 , $\text{Dy}_2\text{Fe}_{17}$, ErFe_2 , and ErFe_3 intermetallic compounds.

1367-1374A

Heat of mixing

Thermodynamic properties and phase equilibria for Pt-Rh alloys.

1545-1550A

Heat resistant alloys, Phases (state of matter)	Lattice constants and compositions of the metastable Ni ₃ Nb phase precipitated in a Ni-15Cr-8Fe-6Nb alloy.	1169-1174A	Hot extrusion Supertransus processing of TiAl-based alloys.	27-36A
Heat transfer	Transport phenomena in electric smelting of nickel matte. II. Mathematical modeling. A correlation to describe interfacial heat transfer during solidification simulation and its use in the optimal feeding design of castings. Modeling the heat flow to an operating Sirosmelt lance. The movement of the concave casting surface during mushy-type solidification and its effect on the heat-transfer coefficient. Analytical/finite-element modeling and experimental verification of spray-cooling process in steel.	85-94B 437-448B 485-492B 1051-1056B 1485-1498A 229-238B 229-238B 205-210B 903-905A 1057-1068B 2127-2136A 1181-1189A 2087-2100A 3017-3028A 205-216A 1395-1404A 929-931B 205-210B 1485-1498A 1431-1439A 3029-3036A 903-905A 537-549A 2137-2145A 2835-2842A 5-16B 775-780A 205-210B 479-484B 631-646A	Hot forging Solidification microstructure and M ₂ C carbide decomposition in a spray-formed high-speed steel.	1395-1404A
Hematite, Reduction (chemical)	Modeling of multi gas-solid reactions; effect of bulk environment parameters on solid conversion.	229-238B	Hot isostatic pressing Changes in microstructure during primary creep of a Ti-47Al-2Nb-1Mn-0.5W-0.5Mo-0.2Si alloy.	89-98A
Hematite process	Modeling of multi gas-solid reactions; effect of bulk environment parameters on solid conversion.	229-238B	Mechanical behavior of a bulk nanostructured iron alloy.	2261-2271A
High alloy steels, Crystal growth	Microsegregation behavior during solidification and homogenization of AerMet100 steel.	205-210B	Effect of B on the microstructure and mechanical properties of mechanically milled TiAl alloys.	2273-2283A
High alloy steels, Structural hardening	On the characteristics of M ₂ C carbides in the peak hardening regime of AerMet 100 steel.	903-905A	Hot rolling Microstructural evolution during the austenite-to-ferrite transformation from deformed austenite.	417-426A
High carbon steels, Casting	Stress formation in solidifying bodies. Solidification in a round continuous casting mold.	1057-1068B	Modeling the microstructural changes during hot tandem rolling of AA5XXX aluminum alloys. I. Microstructural evolution.	611-620B
High carbon steels, Mechanical properties	The effects of residual macrostresses and microstresses on fatigue crack propagation.	2127-2136A	Modeling the microstructural changes during hot tandem rolling of AA5XXX aluminum alloys. II. Textural evolution.	621-633B
High carbon steels, Phase transformations	The divorced eutectoid transformation in steel. Transitions in carbide morphology in a ternary Fe-C-W steel.	1181-1189A 2087-2100A	Sticking mechanism during hot rolling of two stainless steels.	700-705A
High cycle fatigue, Microstructural effects	Effects of test temperature on internal fatigue crack generation associated with nonmetallic particles in austenitic steels.	3017-3028A	Modeling the microstructural changes during hot tandem rolling of AA5XXX aluminum alloys. III. Overall model development and validation.	709-719B
High speed tool steels, Mechanical properties	Cutting performance and microstructure of high speed steels: contributions of matrix strengthening and undissolved carbides.	205-216A	Investigation of thermomechanical behavior of a work roll and of roll life in hot strip rolling.	2407-2424A
High speed tool steels, Phase transformations	Solidification microstructure and M ₂ C carbide decomposition in a spray-formed high-speed steel.	1395-1404A	Hot strip mills, Service life Investigation of thermomechanical behavior of a work roll and of roll life in hot strip rolling.	2407-2424A
High strength low alloy steels, Coating	On optimization of the plasma arc surfacing process.	929-931B	Hot working High-temperature deformation behavior of the intermetallic Ti-47 at.% Al-3 at.% Cr alloy.	1425-1430A
High strength steels, Crystal growth	Microsegregation behavior during solidification and homogenization of AerMet100 steel.	205-210B	Intergranular fracture of gamma titanium aluminides under hot working conditions.	1991-1999A
High strength steels, Heat treatment	Analytical/finite-element modeling and experimental verification of spray-cooling process in steel.	1485-1498A	High-temperature deformation of commercial-purity aluminum.	2345-2359A
High strength steels, Mechanical properties	A strain energy-based approach to the low-cycle fatigue damage mechanism in a high-strength spring steel. Use of the nanindentation technique for studying microstructure/crack interactions in the fatigue of 4340 steel.	1431-1439A	Microstructural and mechanical behavior of a duplex stainless steel under hot working conditions.	2975-2986A
High strength steels, Structural hardening	On the characteristics of M ₂ C carbides in the peak hardening regime of AerMet 100 steel.	903-905A	Hydrides Damage process in commercially pure α -titanium alloy without (Ti40) and with (Ti40-H) hydrides.	1615-1628A
High temperature	Ir-base refractory superalloys for ultra-high temperatures. The effect of environment on high-temperature hold time fatigue behavior of annealed 2.25Cr-1Mo steel. Role of cold work and SiC reinforcements on the β' / β precipitation in Al-10% Mg alloy.	537-549A 2137-2145A 2835-2842A	Hydrides, Reactions (chemical) Effect of oxidation treatment and surface filming on hydrogen degassing from TiH ₂ .	1315-1319B
Historical metallurgy	Who was Henry Howe?	5-16B	Hydrodynamics Numerical and experimental study of a hydrodynamic cavitation tube.	911-917B
Holes	Flow localization in sheet specimens with pairs of holes.	775-780A	Hydrogen, Diffusion Hydrogen uptake in titanium aluminides covered with oxide layers.	307-314A
Homogenizing	Microsegregation behavior during solidification and homogenization of AerMet100 steel.	205-210B	Evaluation of hydrogen-trap binding enthalpy. II.	1017-1021A
Hot dip galvanizing	The effect of iron oxide as an inhibition layer on iron-zinc reactions during hot-dip galvanizing. Solidification and spangle formation of hot-dip-galvanized zinc coatings.	479-484B 631-646A	Hydrogen and deuterium in Pd-25% Ag alloy: permeation, diffusion, solubilization, and surface reaction.	1023-1028A
			Gaseous hydrogen embrittlement of a hydrided zirconium alloy.	1047-1056A
			Effect of oxidation treatment and surface filming on hydrogen degassing from TiH ₂ .	1315-1319B
			Hydrogen, Reactions (chemical) Steady-state studies of the reactions of H ₂ O-CO and CO ₂ -H ₂ mixtures with liquid iron.	829-836B
			Hydrogen, Solubility A novel method for the determination of the hydrogen solubility in aluminum and aluminum alloy melts.	421-427B
			Hydrogen embrittlement Gaseous hydrogen embrittlement of a hydrided zirconium alloy.	1047-1056A
			Hydrogen embrittlement, Coating effects Hydrogen uptake in titanium aluminides covered with oxide layers.	307-314A
			Hydrogen embrittlement, Heating effects The effect of carbide precipitation on the hydrogen-enhanced fracture behavior of alloy 690.	1265-1277A
			Hydrometallurgy Physicochemical and structural factors in the sulfuric acid leaching of nickel- and copper-bearing synthetic bimimetals.	527-540B
			Pressure acid leaching of laterites at 250°C: A solution chemical model and its applications.	945-952B
			Model for the ferric chloride leaching of galena.	953-960B
			Leaching kinetics of digenite concentrate in oxygenated chloride media at ambient pressure.	961-969B
			Beneficiation of West Sibaya phosphate ores by floatation in alkaline media.	1149-1156B
			The acid-base behavior of zinc sulfate electrolytes: the temperature effect.	1157-1166B
			Ilmenite, Powder technology Formation of TiN/TiC-Fe composites from ilmenite (FeTiO ₃) concentrate.	1077-1083B

Ilmenite, Reactions (chemical)			
Electrochemical determination of Gibbs energy of formation of NiTiO_3 (ilmenite).	31-38B	Control of interfacial reactions during liquid phase processing of aluminum matrix composites reinforced with Inconel 601 fibers.	1727-1739A
Ilmenite, Reduction (chemical)			
A study on carbothermic reduction of ilmenite ore in a plasma reactor.	1175-1180B	Atomic arrangement and the formation of partially coherent interfaces in the Ti-V-N system.	2049-2058A
Impact			
Microstructural development of adiabatic shear bands formed by ballistic impact in a Weldalite 049 alloy.	477-483A	Intergranular corrosion, Alloying effects	
Charpy V-notch properties and microstructures of narrow gap ferritic welds of a quenched and tempered steel plate.	2775-2784A	Isolation of carbon and grain boundary carbide effects on the creep and intergranular stress corrosion cracking behavior of Ni-16Cr-9Fe- x C alloys in 360°C primary water.	1035-1046A
Impact strength, Welding effects			
Charpy V-notch properties and microstructures of narrow gap ferritic welds of a quenched and tempered steel plate.	2775-2784A	Intergranular corrosion, Microstructural effects	
Mitigating intergranular attack and growth in lead-acid battery electrodes for extended cycle and operating life.	387-396A	Mitigating intergranular attack and growth in lead-acid battery electrodes for extended cycle and operating life.	
Inclusions			
Effect of matrix constitutive behavior and inclusions on forming limits of Fe-42% Ni alloy sheet.	289-298A	Intergranular fracture	
Investigation of inclusion re-entrainment from the steel-slag interface.	641-649B	Grain boundary cracking.	509-518B
Deformation structure and subsurface fatigue crack generation in austenitic steels at low temperature.	809-822A		
Indentation			
Use of the nanoindentation technique for studying microstructure/crack interactions in the fatigue of 4340 steel.	3029-3036A	Intergranular fracture, Deformation effects	
Intergranular fracture of gamma titanium aluminides under hot working conditions.	1991-1999A		
Indium, Ternary systems			
Thermodynamics and phase equilibria in the Al-In-Sb system.	611-616A	Intergranular fracture, Heating effects	
The effect of carbide precipitation on the hydrogen-enhanced fracture behavior of alloy 690.	1265-1277A		
Indium base alloys, Thermal properties			
Determination of the melting and solidification characteristics of solders using differential scanning calorimetry.	1965-1972A	Intergranular fracture, Low temperature effects	
A study on fractography in the low-temperature brittle fracture of an 18Cr-18Mn-0.7N austenitic steel.	791-798A		
Infiltration			
Titanium preconditioning of Al_2O_3 for liquid-state processing of Al-Al ₂ O ₃ composite materials.	327-337A	Intergranular fracture, Temperature effects	
Dynamic analysis of unidirectional pressure infiltration of porous preforms by pure metals.	377-385A	Effect of test temperature on the dynamic torsional deformation behavior of two aluminum-lithium alloys.	469-476A
Reactive infiltration processing of aluminum-nickel intermetallic compounds.	2819-2828A		
Fabrication of Al-3 wt.% Mg matrix composites reinforced with Al_2O_3 and SiC particulates by the pressureless infiltration technique.	3087-3095A	Intermetallic phases	
Assessment of the Fe-Ti system.	361-370B	Thermochemistry of ternary liquid Cu-Mg-Si alloys.	
Thermochemistry of ternary liquid Cu-Mg-Si alloys.	807-813B	Standard enthalpies of formation for some samarium alloys, Sm-Me (Me=Ni, Rh, Pd, Pt), determined by high-temperature direct synthesis calorimetry.	
Multi-stage sintering process for Ni ₃ Al powder metallurgical products.	815-820B		
An analytical electron microscopy study of constituent particles in commercial 7075-T6 and 2024-T3 alloys.	1069-1076B		
A transmission electron microscopy study of constituent-particle-induced corrosion in 7075-T6 and 2024-T3 aluminum alloys.	1145-1151A		
Experimental investigation on the enthalpies of formation of the Dy ₂ Fe ₁₇ , Er ₂ Fe ₁₇ , and ErFe ₂ intermetallic compounds. F-type icosahedral phase and a related cubic phase in the Al-Rh-Cu system.	1153-1160A		
On the observation of a new ternary MgSiCa phase in Mg-Si alloys.	1367-1374A		
On the observation of a new ternary MgSiCa phase in Mg-Si alloys.	1559-1563A		
1209-1218B	1759-1763A		
Ingot casting			
Microsegregation behavior during solidification and homogenization of AerMet100 steel.	205-210B	Intermetallic phases, Alloying effects	
The effect of iron oxide as an inhibition layer on iron-zinc reactions during hot-dip galvanizing.	479-484B	Microstructural studies of a Cu-Zn-Al shape-memory alloy with manganese and zirconium addition.	1865-1871A
Effects of pore diameter, bath surface pressure, and nozzle diameter on the bubble formation from a porous nozzle.	569-575B	Effect of Mg and Sr additions on the formation of intermetallics in Al-6 wt.% Si-3.5 wt.% Cu-(0.45) to (0.8) wt.% Fe 319-type alloys.	2871-2884A
Effect of cross-flow on the frequency of bubble formation from a single-hole nozzle.	755-761B		
Injection			
Mixing time and fluid flow phenomena in liquids of varying kinematic viscosities agitated by bottom gas injection.	1219-1225B	Intermetallic phases, Crystal growth	
Water model study of the frequency of bubble formation under reduced and elevated pressures.	1795-1804A	Phase transformation behavior of gamma titanium aluminide alloys during supertransus heat treatment.	7-18A
Effects of pore diameter, bath surface pressure, and nozzle diameter on the bubble formation from a porous nozzle.	907-909A	Microstructure evolution through the $\alpha \rightarrow \gamma$ phase transformation in a Ti-48 at.% Al alloy.	19-26A
Effect of cross-flow on the frequency of bubble formation from a single-hole nozzle.	2477-2481A	Ternary alloying study of MoS ₂ .	119-129A
Injection molding		Evolution and thermal stability of Ni ₃ V and Ni ₂ V phases in a Ni-29 at.% V alloy.	1883-1894A
Bulk amorphous metallic alloys: synthesis by fluxing techniques and properties.	296-298B	Growth of δ' on dislocations in a dilute Al-Li alloy.	2073-2085A
Integrated circuits, Coating		Evolution of aluminate coating microstructure on nickel-base cast superalloy CM-247 in a single-step high-activity aluminizing process.	2173-2188A
Perovskite phase lead zirconate titanate thin film deposition on Pt/SiO ₂ /Si substrate at low temperature.	471-477B		
Interdendritic structure		Intermetallics, Casting	
An observation on microstructure of a casting Zn-40 wt.% Al alloy.	563-567B	The free-surface shape and temperature distribution produced in liquid metal droplets by heating coil pulses in the TEMPUS electromagnetic levitation facility.	
Interface reactions			
The effect of sulfur on the interfacial rates of reaction of CO ₂ and CO with liquid copper.	641-649B	Intermetallics, Coatings	
Influence of melt carbon and sulfur on the wetting of solid graphite by Fe-C-S melts.	1347-1355A	Synthesis of nanocomposite thin films based on the Mo-Si-C ternary system and compositional tailoring through controlled ion bombardment.	1127-1134B
Liquid-solid mass transfer from a wall in contact with a gas/liquid interface undergoing wave motion.	3087-3095A		
Investigation of inclusion re-entrainment from the steel-slag interface.	2885-2892A	Intermetallics, Composite materials	
Experimental approaches to simulating interfacial reactions in metal matrix composites.	2737-2746A	An investigation of toughening in NiAl composites reinforced with yttria-partially stabilized zirconia particles.	493-505A
Fabrication of Al-3 wt.% Mg matrix composites reinforced with Al_2O_3 and SiC particulates by the pressureless infiltration technique.	1517-1524A	Combustion characteristics of the Ni ₃ Ti-TiB ₂ intermetallic matrix composites.	867-875B
Interface reactions, Diffusion effects		The effect of gravity on the combustion synthesis of metal-ceramic composites.	889-897B
Interfacial reaction-controlled reprecipitation of W atoms in liquid matrix phase during the sintering of W-8 wt.% Mo-7 % Ni-3% Fe.	2737-2746A	Thermomechanical behavior of TiNi shape memory alloy fiber reinforced 6061 aluminum matrix composite.	1127-1135A
Interface reactions, Heating effects		Experimental approaches to simulating interfacial reactions in metal matrix composites.	1347-1355A
Interface-controlled fatigue cracking of SCS-6/Ti-22Al-23Nb "orthorhombic" titanium aluminide composite.			
Interface reactions, Processing effects			
Effect of interfacial reaction on bending strength of Al ₁₈ B ₄ O ₃₃ whisker-reinforced aluminum composites.			

Microstructure and mechanical behavior of reaction hot-pressed titanium silicide and titanium silicide-based alloys and composites.	1629-1641A	Synthesis of ultrafine particles of intermetallic compounds by the vapor-phase magnesium reduction of chloride mixtures. II. Nickel aluminides.	465-469B
Elevated-temperature oxidation behavior of titanium silicide and titanium silicide-based alloy and composite.	1665-1675A	Intermetallics, Welding Autogenous gas tungsten arc weldability of cast alloy Ti-48Al-2Cr-2Nb (at.%) versus extruded alloy Ti-46Al-2Cr-2Nb-0.9Mo (at.%).	927-935A
Effects of R-ratio on the fatigue crack growth of Nb-Si(ss) and Nb-10Si in situ composites.	1749-1757A		
Fracture toughness and R-curve behavior of laminated brittle-matrix composites.	2483-2496A	Ion implantation, Russia An overview of some advanced surface technology in Russia.	593-610A
Intermetallics, Crystal growth		Iridium base alloys, Mechanical properties Ir-base refractory superalloys for ultra-high temperatures.	537-549A
Growth of semicoherent TiFe nanoparticles in β -Ti matrix in the $Ti_{73}Fe_{27}$ rapidly quenched ribbon.	131-137A		
Intermetallics, Mechanical properties		Iron, Alloying additive Ternary alloying study of MoSi ₂ . Solidification of Nb-bearing superalloys. I. Reaction sequences.	119-129A
Supertrans processing of TiAl-based alloys.	27-36A	Solidification of Nb-bearing superalloys. II. Pseudoternary solidification surfaces.	2785-2796A
The role of grain size and selected microstructural parameters in strengthening fully lamellar TiAl alloys.	37-47A		2797-2806A
Physical constants, deformation twinning, and microcracking of titanium aluminides.	49-63A		
Tension and compression testing of single-crystalline gamma Ti-55.5 Al.	65-71A	Iron, Alloying elements Characterization by thermoelectric power of a commercial aluminum-iron-silicon alloy (8011) during isothermal precipitation.	2669-2677A
Fundamental aspects of fatigue and fracture in a TiAl sheet alloy.	73-87A		
Plastic instability during creep deformation of a NiAl-Hf single-crystal alloy—a case study.	179-189A	Iron, Binary systems Assessment of the Fe-Ti system.	361-370B
Tensile properties and fracture toughness of a Ti-45Al-1.6Mn alloy at loading velocities of up to 12 m/s.	263-277A	Experimental investigation on the enthalpies of formation of the DyFe ₂ , Dy ₂ Fe ₁₇ , ErFe ₂ , and ErFe ₃ intermetallic compounds.	1367-1374A
Hydrogen uptake in titanium aluminides covered with oxide layers.	307-314A	Iron, Composite materials Transformation superplasticity of iron and Fe/TiC metal matrix composites.	565-575A
Coherency stresses in lamellar Ti-Al.	937-942A	Formation of TiN/TiC-Fe composites from ilmenite (FeTiO ₃) concentrate.	1077-1083B
Effect of deformation temperature on fatigue and fracture behavior of TiAl polycrystallinely twinned crystals.	943-950A		
Atomistic simulation of fracture in TiAl.	951-955A		
Finite element analysis of cavitating facet interaction in a fully lamellar titanium aluminide alloy under creep conditions.	957-964A	Iron, Extraction Modeling of multi gas-solid reactions; effect of bulk environment parameters on solid conversion.	229-238B
Microstructural development and creep deformation in equiaxed γ , $\gamma+\alpha_2$, and $\gamma+\alpha_2+B2$ titanium aluminides.	965-978A	Iron redox equilibria in CaO-Al ₂ O ₃ -SiO ₂ and MgO-CaO-Al ₂ O ₃ -SiO ₂ slags.	837-845B
High-temperature deformation behavior of the intermetallic Ti-47 at.% Al-3 at.% Cr alloy.	1425-1430A	Reduction of FeO in smelting slags by solid carbon: re-examination of the influence of the gas-carbon reaction.	935-938B
The Knoop-hardness yield locus of an orthorhombic titanium aluminide alloy.	1763-1765A	Mathematical modeling of the reduction process of iron ore particles in two stages of twin-fluidized beds connected in series.	1107-1115B
Effect of Ni on vacancy concentrations and hardness in FeAl alloys.	1911-1915A		
Intergranular fracture of gamma titanium aluminides under hot working conditions.	1991-1999A	Iron, Impurities On the nature of the Fe-bearing particles influencing hard anodizing behavior of AA 7075 extrusion products.	979-987A
Effect of B on the microstructure and mechanical properties of mechanically milled TiAl alloys.	2273-2283A		
An investigation of the fracture and fatigue crack growth behavior of forged damage-tolerant niobium aluminide intermetallics.		Iron, Mechanical properties Torsion textures produced by dynamic recrystallization in α -iron and two interstitial-free steels.	447-462A
Intermetallics, Microstructure	2361-2374A	Grain boundary cracking.	509-518B
Changes in microstructure during primary creep of a Ti-47Al-2Nb-1Mn-0.5W-0.5Mo-0.2Si alloy.	89-98A	Mechanical properties, ductility, and grain size of nanocrystalline iron produced by mechanical attrition.	2285-2295A
Microstructural evolution during creep of single-phase gamma TiAl.	99-104A		
Development of ultrafine lamellar structures in two-phase γ -TiAl alloys.	105-117A	Iron, Microstructure On the relation between the number-weighted and volume-weighted grain volume distribution parameters.	3081-3086A
Processing-property-microstructure relationships in TiAl-based alloys.	919-925A		
Structural models of t^2 -inflated monoclinic and orthorhombic Al-Co phases.	1565-1572A	Iron, Powder technology Grain growth of nanocrystalline cryomilled Fe-Al powders. Liquidlike sintering behavior of nanometric Fe and Cu powders: experimental approach.	2469-2475A
Strain-induced self-organization of steps and islands in SiGe/Si multilayer films.	2111-2119A		2941-2949A
Intermetallics, Oxidation	1279-1288A	Iron, Quaternary systems Thermodynamics of the Fe-Nb-C-N system and the solubility of niobium carbonitrides in austenite.	163-176B
Oxidation protection of Ti-aluminide orthorhombic alloys: an engineered multilayer approach.		Assessment of the Fe-Ti-C system, calculation of the Fe-Ti-N system, and prediction of the solubility limit of Ti(C,N) in liquid Fe.	371-384B
Intermetallics, Phase transformations			
Stress-induced martensitic phase transformations in polycrystalline CuZnAl shape memory alloys under different stress states.	765-773A	Iron, Reactions (chemical) The kinetics of dephosphorization of carbon-saturated iron using an oxidizing slag.	111-118B
Effect of thermal cycling on the R-phase and martensitic transformations in a Ti-rich NiTi alloy.	1175-1180A	Henrian activity coefficient of Pb in Cu-Fe mattes and white metal.	429-436B
Superheating behavior of NiAl.	2221-2225A	Influence of melt carbon and sulfur on the wetting of solid graphite by Fe-C-S melts.	471-477B
Ordering and martensitic transformations of Ni ₂ AlMn Heusler alloys.	2225-2227A	The effect of iron oxide as an inhibition layer on iron-zinc reactions during hot-dip galvanizing.	479-484B
		Thermodynamic modeling of liquid Fe-Ni-Cu-Co-S mattes.	591-601B
Intermetallics, Powder technology			
Multistage sintering process for Ni ₃ Al powder metallurgical products.	1069-1076B	Iron, Recycling Removal of copper from carbon-saturated iron with an aluminum sulfide/ferrous sulfide flux.	493-495B
Intermetallics, Solubility			
Thermodynamics of yttrium and oxygen in molten Ti, Ti ₃ Al, and TiAl.	1037-1042B	Iron, Refining Steady-state studies of the reactions of H ₂ O-CO and CO ₂ -H ₂ mixtures with liquid iron.	829-836B
Intermetallics, Synthesis			
Formation mechanism of LaNi ₅ in the reduction-diffusion process.	331-338B	Iron, Solubility Equilibrium of calcium vapor with liquid iron and the interaction of third elements.	415-420B
Synthesis of ultrafine particles of intermetallic compounds by the vapor-phase magnesium reduction of chloride mixtures. I. Titanium aluminides.	457-464B	Iron, Ternary systems Thermodynamic properties of the Fe-Cr-P liquid solution.	155-161B

Thermodynamic assessment of liquid Fe-Mn-C system. Discussion of "Uwakweh and Liu's Reply" and Authors' Reply.	397-403B 2643-2645A	Structural transition and macrosegregation of Al-Cu eutectic alloy solidified in the electromagnetic centrifugal casting process.	404-408A 937-942A
Iron and steel making		Coherency stresses in lamellar Ti-Al.	2087-2100A
Who was Henry Howe?	5-16B	Transitions in carbide morphology in a ternary Fe-C-W steel.	2101-2110A
Influence of melt carbon and sulfur on the wetting of solid graphite by Fe-C-S melts.	471-477B	The effect of undercooling on the cellular precipitation reaction in Cu-3Ti.	2477-2481A
Simplified simulation of the transient behavior of temperatures in the upper shaft of the blast furnace.	691-697B	An observation on microstructure of a casting Zn-40 wt.% Al alloy.	
Kinetics studies on the dissolution of nitrogen in the CaO-Al ₂ O ₃ -SiO ₂ and CaO-Al ₂ O ₃ -TiO _x melts.	1235-1240B 1241-1248B	Lamellar structure, Deformation effects	
Activities in the spinel solid solution Fe _x Mg _{1-x} Al ₂ O ₄ .		Supertransus processing of TiAl-based alloys.	27-36A
Iron compounds, Crystal growth		Changes in microstructure during primary creep of a Ti-47Al-2Nb-1Mn-0.5W-0.5Mo-0.2Si alloy.	89-98A
Growth of semicoherent TiFe nanoparticles in β -Ti matrix in the Ti ₇₅ Fe ₂₇ rapidly quenched ribbon.	131-137A	Processing-property-microstructure relationships in TiAl-based alloys.	919-925A
Iron compounds, Mechanical properties		Lamellar structure, Heating effects	
Effect of Ni on vacancy concentrations and hardness in FeAl alloys.	1911-1915A	Microstructure evolution through the $\alpha \rightarrow \gamma$ phase transformation in a Ti-48 at.% Al alloy.	19-26A
Iron compounds, Microstructure		Development of ultrafine lamellar structures in two-phase γ -TiAl alloys.	105-117A
Effect of ordering energy and stoichiometry in $\Sigma=5$ boundaries in B2 compounds.	2655-2668A	Microstructure and creep behavior of an orthorhombic Ti-25Al-17Nb-1Mo alloy.	559-564A
Iron compounds, Reduction (chemical)		Nanometer-scale, fully lamellar microstructure in an aged TiAl-based alloy.	2679-2685A
Communication: Reduction of FeWO ₄ -NiWO ₄ solid solutions by hydrogen gas.	1136-1139B	Laminates, Mechanical properties	
Iron ores, Reduction (chemical)		Fracture toughness and R-curve behavior of laminated brittle-matrix composites.	2483-2496A
Thermodynamic estimation on the reduction behavior of iron-chromium ore with carbon.	351-360B	Numerical analysis of the formability of an aluminum 2024 alloy sheet and its laminates with steel sheets.	2829-2834A
Reduction of FeO in smelting slags by solid carbon: re-examination of the influence of the gas-carbon reaction.	935-938B	Lances, Thermal properties	
Mathematical modeling of the reduction process of iron ore particles in two stages of twin-fluidized beds connected in series.	1107-1115B	Modeling the heat flow to an operating Sirosmelt lance.	485-492B
Iron oxides, Reactions (chemical)		Lanthanum compounds, Synthesis	
The effect of surfactants on the interfacial rates of reaction of CO ₂ and CO with liquid iron oxide.	137-145B	Formation mechanism of LaNi ₃ in the reduction-diffusion process.	331-338B
Review and modeling of viscosity of silicate melts. II. Viscosity of melts containing iron oxide in the CaO-MgO-MnO-FeO-Fe ₂ O ₃ -SiO ₂ system.	187-195B	Laser beam cladding	
Formation of hexavalent chromium by reaction between slag and magnesite-chrome refractory.	405-410B	The effect of heat input on the microstructure and properties of nickel aluminum bronze laser clad with a consumable of composition Cu-9.0Al-4.6Ni-3.9Fe-1.2Mn.	1677-1690A
The effect of iron oxide as an inhibition layer on iron-zinc reactions during hot-dip galvanizing.	479-484B	Laser beam melting	
Iron oxides, Reduction (chemical)		Solidification behavior and microstructural evolution during laser beam-material interaction.	1269-1279B
Communication: Estimation of isothermal values of activation energy for aluminothermic reduction.	1135-1136B	Lasers	
Ironmaking		Failure of SiC particulate-reinforced metal matrix composites induced by laser thermal shock.	685-692A
Phosphorus distribution between carbon-saturated iron at 1350°C and lime-based slags containing Na ₂ and CaF ₂ .	147-153B	Laterites, Beneficiation	
Modeling mean flow and turbulence characteristics in gas-agitated bath with top layer.	211-222B	Pressure acid leaching of laterites at 250°C: A solution chemical model and its applications.	945-952B
Reduction of FeO in smelting slags by solid carbon: re-examination of the influence of the gas-carbon reaction.	935-938B	The ion-association-interaction approach as applied to aqueous H ₂ SO ₄ -Al ₂ (SO ₄) ₃ -MgSO ₄ solutions at 250°C.	1021-1030B
Isothermal treatment		Lattice parameters	
Microstructure evolution through the $\alpha \rightarrow \gamma$ phase transformation in a Ti-48 at.% Al alloy.	19-26A	Physical constants, deformation twinning, and microcracking of titanium aluminides.	49-63A 937-942A
Isothermal treatment, Impurity effects		Coherency stresses in lamellar Ti-Al.	
Upper acicular ferrite formation in a medium-carbon microalloyed steel by isothermal transformation: nucleation enhancement by CuS.	1003-1015A	Lattice constants and compositions of the metastable Ni ₃ Nb phase precipitated in a Ni-15Cr-8Fe-6Nb alloy.	1169-1174A
Kinetics		Atomic arrangement and the formation of partially coherent interfaces in the Ti-V-N system.	2049-2058A
Comparison of grinding kinetics between a typical ball mill and a ball mill fitted with a breaker plate.	17-22B	Lattice parameters, Alloying effects	
Desorption kinetics of carbon and oxygen in liquid niobium.	1309-1314B	Effect of Ni on vacancy concentrations and hardness in FeAl alloys.	1911-1915A
Knoop hardness		Lattice vacancies, Alloying effects	
The Knoop-hardness yield locus of an orthorhombic titanium aluminide alloy.	1763-1765A	Effect of Ni on vacancy concentrations and hardness in FeAl alloys.	1911-1915A
Ladle liners, Thermal properties		Lattice vacancies, Deformation effects	
Model for temperature profile estimation in the refractory of a metallurgical ladle.	651-659B	In situ nuclear magnetic resonance investigation of strain, temperature, and strain-rate variations of deformation-induced vacancy concentration in aluminum.	153-159A
Ladle metallurgy		Laves phase, Crystal growth	
Activities of SiO ₂ and Al ₂ O ₃ and activity coefficients of Fe ₂ O ₃ and MnO in CaO-SiO ₂ -Al ₂ O ₃ -MgO slags.	119-129B	A combined solubility product/new PHACOMP approach for estimating temperatures of secondary solidification reactions in superalloy weld metals containing Nb and C.	1449-1456A
Modeling mean flow and turbulence characteristics in gas-agitated bath with top layer.	211-222B	Leaching	
Ladies		Particle suspension in (air-agitated) Pachuca tanks.	339-349B
Decay of fluid motion in a filling ladle after tapping.	931-935B	Pressure acid leaching of laterites at 250°C: A solution chemical model and its applications.	945-952B
Ladies, Thermal properties		Model for the ferric chloride leaching of galena.	953-960B
Model for temperature profile estimation in the refractory of a metallurgical ladle.	651-659B	Leaching kinetics of digenite concentrate in oxygenated chloride media at ambient pressure.	961-969B
Lamellar structure		The acid-base behavior of zinc sulfate electrolytes: the temperature effect.	1157-1166B
The role of grain size and selected microstructural parameters in strengthening fully lamellar TiAl alloys.	37-47A	Evaluation of velocity-dependent in situ leaching processes: single-porosity model.	1227-1234B
Fundamental aspects of fatigue and fracture in a TiAl sheet alloy.	73-87A	Lead (metal), Extraction	
		Model for the ferric chloride leaching of galena.	953-960B

Lead (metal), Reactions (chemical)

Factors affecting the immobilization of metals in geopolymersized flyash.
Henrian activity coefficient of Pb in Cu-Fe mattes and white metal.

Lead base alloys, Corrosion

Mitigating intergranular attack and growth in lead-acid battery electrodes for extended cycle and operating life.

Lead base alloys, Crystal growth

Numerical simulation of macrosegregation: a comparison between finite volume method and finite element method predictions and a confrontation with experiments.
Solidification of a ternary metal alloy: a comparison of experimental measurements and model predictions in a Pb-Sb-Sn system.

Lead base alloys, Directional solidification

Primary spacing in directional solidification.
Model of banding in diffusive and convective regimes during directional solidification of peritectic systems.

Lead compounds, Coatings

Perovskite phase lead zirconate titanate thin film deposition on Pt/SiO₂/Si substrate at low temperature.

Lead compounds, Reactions (chemical)

Experimental study of phase equilibria in the systems PbO_x-CaO and PbO_x-CaO-SiO₂.

Levitation

Effect of processing conditions on drop behavior in an electromagnetic levitator.

Levitation casting

The free-surface shape and temperature distribution produced in liquid metal droplets by heating coil pulses in the TEMPUS electromagnetic levitation facility.

The use of particle image velocimetry in the physical modeling of flow in electromagnetic or direct-chill casting of aluminum. I. Development of the physical model.

The use of particle image velocimetry in the physical modeling of flow in electromagnetic or direct-chill casting of aluminum. II. Results of the physical model, including bag geometry, blockage, and nozzle placement.

Levitation melting

Superheating behavior of NiAl.

Lime, Reactions (chemical)

Activities of SiO₂ and Al₂O₃ and activity coefficients of Fe₂O₃ and MnO in CaO-SiO₂-Al₂O₃-MgO slags.

Thermodynamics of chromium oxides in CaO-SiO₂-CaF₂ slag. Phosphorus distribution between carbon-saturated iron at 1350°C and lime-based slags containing Na₂O and CaF₂.

Review and modeling of viscosity of silicate melts. I. Viscosity of binary and ternary silicates containing CaO, MgO, and MnO.

Review and modeling of viscosity of silicate melts. II. Viscosity of melts containing iron oxide in the CaO-MgO-MnO-FeO-Fe₂O₃-SiO₂ system.

Formation of hexavalent chromium by reaction between slag and magnesite-chrome refractory.

Experimental study of phase equilibria in the systems PbO_x-CaO and PbO_x-CaO-SiO₂.

Effects of CaO, Al₂O₃, and MgO additions on the copper solubility, ferric/ferrous ratio, and minor-element behavior of iron-silicate slags.

Limestone, Beneficiation

Comparison of grinding kinetics between a typical ball mill and a ball mill fitted with a breaker plate.

Limonite, Beneficiation

The ion-association-interaction approach as applied to aqueous H₂SO₄-Al₂(SO₄)₃-MgSO₄ solutions at 250°C.

Liquid flow

Liquid flow on a rotating disk prior to centrifugal atomization and spray deposition.

Liquid metals, Electrical properties

Surface-coupled modeling of magnetically confined liquid metal in three-dimensional geometry.

Liquid metals, Magnetic properties

Effect of processing conditions on drop behavior in an electromagnetic levitator.

Liquid metals, Mechanical properties

Thermodynamic and kinetic properties of amorphous and liquid states.

Liquid metals, Physical properties

A mathematical model for the dynamic behavior of metals subjected to electromagnetic forces. I. Model development and comparison of predictions with published experimental results.

Liquid metals, Reactions (chemical)

The effect of sulfur on the interfacial rates of reaction of CO₂ and CO with liquid copper.

Chemical reactions between aluminum and fly ash during synthesis and reheating of Al-fly ash composite.

Steady-state studies of the reactions of H₂O-CO and CO₂-H₂ mixtures with liquid iron.

Thermodynamic properties of aluminum, magnesium, and calcium in molten silicon.

Reactive infiltration processing of aluminum-nickel intermetallic compounds.

296-298B

519-525B

829-836B

1043-1049B

2819-2828A

Liquid metals, Solubility

Equilibrium of calcium vapor with liquid iron and the interaction of third elements.

A novel method for the determination of the hydrogen solubility in aluminum and aluminum alloy melts.

Thermodynamics of yttrium and oxygen in molten Ti, Ti₃Al, and TiAl.

415-420B

421-427B

1037-1042B

Liquid metals, Sorption

Desorption kinetics of carbon and oxygen in liquid niobium.

1309-1314B

Liquid metals, Surface properties

Interfacial tension between aluminum and NaCl-KCl-based salt systems.

Surface tension measurements on liquid metals in microgravity.

821-827B

1031-1035B

Liquid phase sintering

Finite element modeling of distortion during liquid phase sintering.

Microstructural effects on distortion and solid-liquid segregation during liquid phase sintering under microgravity conditions.

659-664A

857-866B

2631-2638A

Shape distortion in liquid-phase-sintered tungsten heavy alloys.

Modeling grain growth dependence on the liquid content in liquid-phase-sintered materials.

3057-3067A

Long range order, Deformation effects

Strain-induced self-organization of steps and islands in SiGe/Si multilayer films.

2111-2119A

Low alloy steels, Mechanical properties

Microstructures controlling the ductile crack growth resistance of low carbon steels.

279-287A

Low alloy steels, Phase transformations

Continuous cooling transformation temperatures determined by compression tests in low carbon bainitic grades.

989-1001A

Upper acicular ferrite formation in a medium-carbon microalloyed steel by isothermal transformation: nucleation enhancement by CuS.

1003-1015A

Effect of ferrite formation on abnormal austenite grain coarsening in low-alloy steels during the hot rolling process.

1375-1381A

Transformation during the isothermal deformation of low-carbon Nb-B steels.

1383-1394A

Low carbon steels, Coating

Surface segregation of phosphorus, carbon, and sulfur in commercial low-carbon grades of steel.

2707-2715A

Low carbon steels, Composite materials

Processing and mechanical properties of magnesium-lithium composites containing steel fibers.

863-873A

Low carbon steels, Mechanical properties

Microstructures controlling the ductile crack growth resistance of low carbon steels.

279-287A

Effect of small loads on crack growth rate and crack tip deformation in the fatigue process of A537 steel.

401-403A

Low carbon steels, Microstructure

Grain size estimation in anisotropic materials.

237-244A

Microstructural evolution during the austenite-to-ferrite transformation from deformed austenite.

417-426A

Low carbon steels, Phase transformations

Continuous cooling transformation temperatures determined by compression tests in low carbon bainitic grades.

989-1001A

Low carbon steels, Welding

Brittle fracture initiation associated with the strain localization in a heat-affected zone of a low carbon steel.

551-558A

Low cycle fatigue

A strain energy-based approach to the low-cycle fatigue damage mechanism in a high-strength spring steel.

1431-1439A

Low cycle fatigue, Microstructural effects

The influence of crystallographic orientation and strain rate on the high-temperature low-cyclic fatigue property of a nickel-base single-crystal superalloy.

1093-1099A

Luders lines

Correlation of dynamic torsional properties with adiabatic shear banding behavior in ballistically impacted aluminum-lithium alloys.

227-235A

Luders lines, Deformation effects		
A model for microstructure evolution in adiabatic shear bands. Microstructural development of adiabatic shear bands formed by ballistic impact in a Weldalite 049 alloy.	191-203A	
Cyclic deformation behavior of high-purity titanium single crystals. II. Microstructure and mechanism.	477-483A	1003-1015A
Magnesite refractories, Reactions (chemical)	513-518A	
Formation of hexavalent chromium by reaction between slag and magnesite-chrome refractory.	405-410B	2225-2227A
Magnesium, Alloying additive	2871-2884A	
Effect of Mg and Sr additions on the formation of intermetallics in Al-6 wt.% Si-3.5 wt.% Cu-(0.45) to (0.8) wt.% Fe 319-type alloys.	2503-2510A	177-186B
Magnesium, Alloying elements	1029-1034A	187-195B
Factors influencing the equilibrium grain size in equal-channel angular pressing: role of Mg additions to aluminum.	971-978B	197-203B
Magnesium, Binary systems	979-986B	
A mathematical model for the solute drag effect on recrystallization.	509-518B	1135-1136B
Magnesium, Impurities	197-203B	
Chlorine fluxing for removal of magnesium from molten aluminum: I. Laboratory-scale measurements of reaction rates and bubble behavior.	1043-1049B	299-306A
Chlorine fluxing for removal of magnesium from molten aluminum: II. Mathematical model.	807-813B	809-822A
Magnesium, Mechanical properties	1759-1763A	
Grain boundary cracking.	863-873A	397-403B
Magnesium, Reactions (chemical)	2543-2554A	
Deoxidation equilibria of molten nickel by Mg-Al and Mn-Al. Thermodynamic properties of aluminum, magnesium, and calcium in molten silicon.	1221-1235A	1289-1298A
Magnesium, Ternary systems	1759-1763A	
Thermochemistry of ternary liquid Cu-Mg-Si alloys. On the observation of a new ternary MgSiCa phase in Mg-Si alloys.	1759-1763A	2903-2912A
Magnesium base alloys, Composite materials	197-203B	
Processing and mechanical properties of magnesium-lithium composites containing steel fibers.	119-129B	367-376A
Mechanical property and fracture behavior of squeeze-cast Mg matrix composites.	177-186B	
Magnesium base alloys, Mechanical properties	187-195B	
Effect of Y, Sr, and Nd additives on the microstructure and microfracture mechanism of squeeze-cast AZ91-X magnesium alloys.	405-410B	2225-2227A
Magnesium base alloys, Phases (state of matter)	583-590B	
Thermochemistry of ternary liquid Cu-Mg-Si alloys. On the observation of a new ternary MgSiCa phase in Mg-Si alloys.	275-281B	2697-2705A
Magnesium compounds, Reactions (chemical)	197-203B	
Deoxidation equilibria of molten nickel by Mg-Al and Mn-Al.	1865-1871A	1175-1180A
Magnesium oxide, Reactions (chemical)	119-129B	
Activities of SiO_2 and Al_2O_3 and activity coefficients of Fe_2O_3 and MnO in $\text{CaO}-\text{SiO}_2-\text{Al}_2\text{O}_3-\text{MnO}$ slags.	177-186B	1579-1583A
Review and modeling of viscosity of silicate melts. I. Viscosity of binary and ternary silicates containing CaO, MgO, and MnO.	187-195B	
Review and modeling of viscosity of silicate melts. II. Viscosity of melts containing iron oxide in the $\text{CaO}-\text{MgO}-\text{MnO}-\text{FeO}-\text{Fe}_2\text{O}_3-\text{SiO}_2$ system.	405-410B	2903-2912A
Formation of hexavalent chromium by reaction between slag and magnesite-chrome refractory.	583-590B	
Effects of CaO, Al_2O_3 , and MgO additions on the copper solubility, ferric/ferrous ratio, and minor-element behavior of iron-silicate slags.	275-281B	2161-2172A
Magnetic fields	191-192B	
Surface-coupled modeling of magnetically confined liquid metal in three-dimensional geometry.	1865-1871A	139-147A
Magnetohydrodynamics	1873-1882A	
A mathematical model for the dynamic behavior of metals subjected to electromagnetic forces. I. Model development and comparison of predictions with published experimental results.	197-203B	427-437A
Manganese, Alloying additive	197-203B	
Microstructural studies of a Cu-Zn-Al shape-memory alloy with manganese and zirconium addition.	197-203B	765-773A
Manganese, Alloying elements	197-203B	
Evolution of microstructure and tensile strength of rapidly solidified Al-4.7% Zn-2.5% Mg-0.2% Zr-X wt.% Mn alloys.	197-203B	563-567B
Manganese, Reactions (chemical)	197-203B	
Deoxidation equilibria of molten nickel by Mg-Al and Mn-Al.	397-403B	763-771B
Manganese, Ternary systems	197-203B	
Thermodynamic assessment of liquid Fe-Mn-C system.	197-203B	269-273B
Manganese compounds, Impurities	197-203B	
Upper acicular ferrite formation in a medium-carbon microalloyed steel by isothermal transformation: nucleation enhancement by CuS.	197-203B	377-385A
Manganese compounds, Phase transformations	197-203B	
Ordering and martensitic transformations of Ni_2AlMn Heusler alloys.	197-203B	751-755A
Manganese compounds, Reactions (chemical)	197-203B	
Review and modeling of viscosity of silicate melts. I. Viscosity of binary and ternary silicates containing CaO, MgO, and MnO.	197-203B	929-931B
Review and modeling of viscosity of silicate melts. II. Viscosity of melts containing iron oxide in the $\text{CaO}-\text{MgO}-\text{MnO}-\text{FeO}-\text{Fe}_2\text{O}_3-\text{SiO}_2$ system.	197-203B	1017-1021A
Deoxidation equilibria of molten nickel by Mg-Al and Mn-Al.	197-203B	1127-1134B
Manganese steels, Mechanical properties	197-203B	
Creep and rupture properties of an austenitic Fe-30Mn-9Al-1C alloy.	197-203B	1261-1267B
Deformation structure and subsurface fatigue crack generation in austenitic steels at low temperature.	197-203B	
Manganese steels, Steel making	197-203B	
Thermodynamic assessment of liquid Fe-Mn-C system.	197-203B	
Marine environments	197-203B	
Influence of residual stresses and loading frequencies on corrosion fatigue crack growth behavior of weldments.	197-203B	
Martensite, Alloying effects	197-203B	
Clusters in carbon martensite: thermodynamics and kinetics.	197-203B	
Martensitic stainless steels, Casting	197-203B	
Microstructural investigation of a rapidly solidified 12Cr-Mo-V steel.	197-203B	
Martensitic stainless steels, Mechanical properties	197-203B	
Effects of Co and Ni on secondary hardening and fracture behavior of martensitic steels bearing W and Cr.	197-203B	
Martensitic stainless steels, Microstructure	197-203B	
Observations of the columnar-to-equiaxed transition in stainless steels.	197-203B	855-861A
Martensitic transformations	197-203B	
Effect of thermal cycling on the R-phase and martensitic transformations in a Ti-rich NiTi alloy.	197-203B	
The $\gamma \rightarrow \epsilon$ -martensitic transformation and its reversion in the FeMnSiCrNi shape-memory alloy.	197-203B	1175-1180A
Ordering and martensitic transformations of Ni_2AlMn Heusler alloys.	197-203B	1579-1583A
Transformation relaxation and aging in a CuZnAl shape-memory alloy studied by modulated differential scanning calorimetry.	197-203B	2225-2227A
Martensitic transformations, Alloying effects	197-203B	
Microstructural studies of a Cu-Zn-Al shape-memory alloy with manganese and zirconium addition.	197-203B	2697-2705A
Clusters in carbon martensite: thermodynamics and kinetics.	197-203B	1865-1871A
Martensitic transformations, Deformation effects	197-203B	
Formability of stainless steel.	197-203B	2903-2912A
Martensitic transformations, Stress effects	197-203B	
Stress-assisted transformation in Ti-60 wt.% Ta alloys.	197-203B	2161-2172A
Stress-state effects on the stress-induced martensitic transformation of carburized 4320 steels.	197-203B	139-147A
Stress-induced martensitic phase transformations in polycrystalline CuZnAl shape memory alloys under different stress states.	197-203B	427-437A
Mass transfer	197-203B	
Liquid-solid mass transfer from a wall in contact with a gas/liquid interface undergoing wave motion.	197-203B	765-773A
Interdiffusivities and mass transfer coefficients of NaF gas.	197-203B	
Master alloys, Alloying additive	197-203B	
Grain refining of Al-4.5Cu alloy by adding an Al-30TiC master alloy.	197-203B	563-567B
Mathematical analysis	197-203B	
Alternative approach to the problem of additivity.	197-203B	763-771B
Dynamic analysis of unidirectional pressure infiltration of porous preforms by pure metals.	197-203B	
A diffusion solution for the melting/dissolution of a solid at constant temperature and its use for measuring the diffusion coefficient in liquids.	197-203B	269-273B
On optimization of the powder plasma arc surfacing process.	197-203B	
Evaluation of hydrogen-trap binding enthalpy. II.	197-203B	377-385A
The free-surface shape and temperature distribution produced in liquid metal droplets by heating coil pulses in the TEMPUS electromagnetic levitation facility.	197-203B	
Fractal analysis of the surface cracks on continuously cast steel slabs.	197-203B	751-755A
	197-203B	929-931B
	197-203B	1017-1021A
	197-203B	1127-1134B
	197-203B	1261-1267B

Discussion of error in the analysis of the wake dislocation problem.	1357-1360A	Experimental and mathematical investigation of the fluid flow inside and below a 1/4 scale air model of a flash smelting burner.	993-1006B
On the calculation of ionic equilibria using the Gibbs energy minimization method.	1372-1374B	A mathematical model for the solute drag effect on recrystallization.	1029-1034A
Fiber fragmentation during processing of metallic matrix composites.	1499-1507A	Modeling of porosity during spray forming: I. Effects of processing parameters.	1085-1096B
Discussion of "Retrograde solubility in semiconductors" and author's reply.	1525-1527A	The influence of crystallographic orientation and strain rate on the high-temperature low-cyclic fatigue property of a nickel-base single-crystal superalloy.	1093-1099A
Electronic structure and related properties of metallic glasses: linear muffin-tin orbital approach.	1853-1863A	Modeling of porosity during spray forming: II. Effects of atomization gas chemistry and alloy compositions.	1097-1106B
Creep rupture life prediction of short fiber-reinforced metal matrix composites.	1983-1989A	Primary spacing in directional solidification.	1113-1119A
The sweep constant concept in phase coarsening.	2395-2398A	Numerical investigation of the free surface in a continuous steel casting mold model.	1117-1126B
Discussion of "Effect of dendrite arm coarsening on microsegregation" and authors' reply.	2447-2450A	The acid-base behavior of zinc sulfate electrolytes: the temperature effect.	1157-1166B
Influence of hydrostatic pressure and multiaxial straining on cavitating superplastic materials.	2555-2561A	Thermodynamic model for MnO-containing slags and gas-slag-metal equilibrium in ferromanganese smelting.	1181-1191B
On the relation between the number-weighted and volume-weighted grain volume distribution parameters.	3081-3086A	Directional dendritic solidification of a composite slurry. I. Dendrite morphology.	1319-1327A
Mathematical models		Directional dendritic solidification of a composite slurry. II. Particle distribution.	1329-1339A
Transport phenomena in electric smelting of nickel matte. II. Mathematical modeling.	85-94B	Mathematical simulation on coupled flow, heat, and solute transport in slab continuous casting process.	1345-1356B
Review and modeling of viscosity of silicate melts. II. Viscosity of melts containing iron oxide in the CaO-MgO-MnO-FeO- Fe_2O_3 -SiO ₂ system.	187-195B	Liquid flow on a rotating disk prior to centrifugal atomization and spray deposition.	1357-1369B
A model for microstructure evolution in adiabatic shear bands.	191-203A	Model of banding in diffusive and convective regimes during directional solidification of peritectic systems.	1457-1470A
Cutting performance and microstructure of high speed steels: contributions of matrix strengthening and undissolved carbides.	205-216A	Analytical/finite-element modeling and experimental verification of spray-cooling process in steel.	1485-1498A
Modeling mean flow and turbulence characteristics in gas-agitated bath with top layer.	211-222B	Behavior and rupture of hydrided Zircaloy-4 tubes and sheets.	1643-1651A
Effect of processing conditions on drop behavior in an electromagnetic levitator.	223-228B	Assessment of void growth models from porosity measurements in cold-drawn copper bars.	1895-1909A
Modeling of multi-gas-solid reactions; effect of bulk environment parameters on solid conversion.	229-238B	The relationship between microstructure and the J-R curve.	1917-1922A
A kinetic model of the Peirce-Smith converter. I. Model formulation and validation.	239-249B	A model for roughness-induced fatigue crack closure.	1933-1939A
A kinetic model of the Peirce-Smith converter. II. Model application and discussion.	251-259B	Dependence of thermal residual stress on temperature in a SiC particle-reinforced 6061 Al alloy.	2001-2009A
Surface-coupled modeling of magnetically confined liquid metal in three-dimensional geometry.	275-281B	Dynamic interaction between a coherent precipitate and an edge dislocation.	2039-2048A
An analytical solution of the critical interface velocity for the encapturing of insoluble particles by a moving solid/liquid interface.	351-358A	Determining interphase boundary orientations from near-coincidence sites.	2059-2072A
The influence of temperature gradient zone melting on microsegregation.	361-367A	Chemical stresses induced by grain-boundary diffusion.	2121-2125A
Dynamic analysis of unidirectional pressure infiltration of porous preforms by pure metals.	377-385A	Simplified computation of macrosegregation in multicomponent aluminum alloys.	2189-2194A
A Monte Carlo approach for simulation of heat flow in sand and metal mold castings (virtual mold modeling).	495-499B	Static recrystallization kinetics with homogeneous and heterogeneous nucleation using a cellular automata model.	2307-2321A
Crystal plasticity forming limit diagram analysis of rolled aluminum sheets.	527-535A	Analysis of ridging in aluminum auto body sheet metal.	2323-2332A
A novel approach for predicting the tensile strength of brazed joints.	587-592A	Investigation of thermomechanical behavior of a work roll and of roll life in hot strip rolling.	2407-2424A
Numerical simulation of macrosegregation: a comparison between finite volume method and finite element method predictions and a confrontation with experiments.	617-630A	Creep cavity growth under interaction between lattice diffusion and grain-boundary diffusion.	2533-2542A
Solidification and spangle formation of hot-dip-galvanized zinc coatings.	631-646A	Interface-controlled fatigue cracking of SCS-6/Ti-22Al-23Nb "orthorhombic" titanium aluminide composite.	2737-2746A
Model for temperature profile estimation in the refractory of a metallurgical ladle.	651-659B	The effect of geometrical assumptions in modeling solid-state transformation kinetics.	2925-2931A
Finite element modeling of distortion during liquid phase sintering.	659-664A	A diffusion-kinetic model for predicting solder/conductor interactions in high density interconnections.	2951-2956A
A computational model for the prediction of steel hardenability.	661-672B	Dependence of fracture toughness of austempered ductile iron on austempering temperature.	3005-3016A
A three-dimensional model of the spray forming method.	699-708B	A free dendritic growth model accommodating curved phase boundaries and high Peclet number conditions.	3047-3056A
Modeling the microstructural changes during hot tandem rolling of AA5XXX aluminum alloys. III. Overall model development and validation.	709-719B	Modeling grain growth dependence on the liquid content in liquid-phase-sintered materials.	3057-3067A
Water model study of the frequency of bubble formation under reduced and elevated pressures.	755-761B	Matte, Reactions (chemical)	
Modeling studies of fluid flow below flash-smelting burners including transient behavior.	773-784B	Impact of sulfur loss on activity coefficient measurements of trace elements in matte.	298-300B
Flow localization in sheet specimens with pairs of holes. Monte Carlo simulation of clustering of alumina particles in turbulent liquid aluminum.	775-780A	Thermodynamic modeling of liquid Fe-Ni-Cu-Co-S mattes.	591-601B
Solidification of a ternary metal alloy: a comparison of experimental measurements and model predictions in a Pb-Sb-Sn system.	785-791B	Mechanical alloying	
Modeling freckle formation in three dimensions during solidification of multicomponent alloys.	843-853A	Effect of B on the microstructure and mechanical properties of mechanically milled TiAl alloys.	2273-2283A
Bioleaching model of a copper-sulfide ore bed in heap and dump configurations.	847-855B	A novel way of amorphous phase formation during mechanical alloying of copper and cadmium powders.	2425-2432A
Numerical and experimental study of a hydrodynamic cavitation tube.	899-909B	Mechanical alloying, Cryogenic effects	
A mathematical model for the dynamic behavior of metals subjected to electromagnetic forces. I. Model development and comparison of predictions with published experimental results.	911-917B	Grain growth of nanocrystalline cryomilled Fe-Al powders.	2469-2475A
Finite element analysis of cavitating facet interaction in a fully lamellar titanium aluminide alloy under creep conditions.	919-928B	Medium carbon steels, Phase transformations	
Chlorine fluxing for removal of magnesium from molten aluminum: II. Mathematical model.	957-964A	Upper acicular ferrite formation in a medium-carbon microalloyed steel by isothermal transformation: nucleation enhancement by CuS.	1003-1015A
	979-986B	Nonclassical decomposition products of austenite in Fe-C-Cr alloys.	2913-2924A
Melt spinning		Growth of semicoherent TiFe nanoparticles in β -Ti matrix in the $\text{Ti}_{73}\text{Fe}_{27}$ rapidly quenched ribbon.	131-137A
		Microstructural investigation of a rapidly solidified 12Cr-Mo-V steel.	367-376A
		Ferromagnetic bulk amorphous alloys.	1779-1793A
Melting		Desulfurization behavior of molten copper alloy by a soda ash.	23-29B

Melting furnaces		
Gas flow analysis in melting furnaces.	1199-1207B	
Melting points		
Determination of the melting and solidification characteristics of solders using differential scanning calorimetry.	1965-1972A	
Melts, Physical properties		
Review and modeling of viscosity of silicate melts. I. Viscosity of binary and ternary silicates containing CaO, MgO, and MnO.	177-186B	
Review and modeling of viscosity of silicate melts. II. Viscosity of melts containing iron oxide in the CaO-MgO-MnO-FeO- Fe_2O_3 - SiO_2 system.	187-195B	
Melts, Reactions (chemical)		
Computer study of structures, thermodynamic, and electrical transport properties of Na_3AlF_6 - Al_2O_3 and CaF_2 - Al_2O_3 melts.	105-110B	
Mercury, Melting		
A mathematical model for the dynamic behavior of metals subjected to electromagnetic forces. I. Model development and comparison of predictions with published experimental results.	919-928B	
Metal powders, Synthesis		
Synthesis of ultrafine particles of intermetallic compounds by the vapor-phase magnesium reduction of chloride mixtures. I. Titanium aluminides.	457-464B	
Metal scrap, Melting		
Interfacial tension between aluminum and NaCl-KCl-based salt systems.	821-827B	
Metal scrap, Recycling		
Desulfurization behavior of molten copper alloy by a soda ash. Removal of copper from carbon-saturated iron with an aluminum sulfide/ferrous sulfide flux.	23-29B	
Metallic glasses, Casting		
Ferromagnetic bulk amorphous alloys.	1779-1793A	
Bulk amorphous metallic alloys: synthesis by fluxing techniques and properties.	1795-1804A	
Metallic glasses, Heat treatment		
Bulk titanium-rich alloys containing nanoscale disordered regions.	1821-1824A	
Metallic glasses, Mechanical properties		
Test environments and mechanical properties of Zr-base bulk amorphous alloys.	1811-1820A	
Thermodynamic and kinetic properties of amorphous and liquid states.	1837-1843A	
Metallic glasses, Microstructure		
Structure of bulk amorphous Pd-Ni-P alloys determined by synchrotron radiation.	1805-1809A	
An analysis of the formation of bulk amorphous silicon from the melt.	1825-1828A	
Ab initio studies of the electronic structure and energetics of bulk amorphous metals.	1845-1851A	
Electronic structure and related properties of metallic glasses: linear muffin-tin orbital approach.	1853-1863A	
Metallic glasses, Phase transformations		
A correlation method for determination of crystallization mechanism and activation energy of amorphous alloy.	149-151A	
Metallic glasses, Thermal properties		
Metastability and thermophysical properties of metallic bulk glass forming alloys.	1829-1835A	
Metastable phases		
Computer simulation and experimental investigation of the spinodal decomposition in the β Ti-Cr binary alloy system. High-resolution electron microscopy on the structure of Guinier-Preston zones in an Al-1.6 mass% Mg ₂ Si alloy.	739-749A	
Metastable phases, Heating effects		
Bulk titanium-rich alloys containing nanoscale disordered regions.	1161-1167A	
Metastable phases, Microstructure		
Lattice constants and compositions of the metastable Ni ₃ Nb phase precipitated in a Ni-15Cr-8Fe-6Nb alloy.	1821-1824A	
Metastable phases, Stress effects		
Stress-assisted transformation in Ti-60 wt.% Ta alloys.	1169-1174A	
Microgravity		
The effect of gravity on the combustion synthesis of metal-ceramic composites.	139-147A	
Marangoni convection flow in NaNO_3 - KNO_3 mixture under microgravity.	889-897B	
Surface tension measurements on liquid metals in microgravity.	987-991B	
Particle engulfment and pushing by solidifying interfaces. II. Microgravity experiments and theoretical analysis.	1031-1035B	
Microhardness, Welding effects		
Autogenous gas tungsten arc weldability of cast alloy Ti-48Al-2Cr-2Nb (at.%) versus extruded alloy Ti-46Al-2Cr-2Nb-0.9Mo (at.%).	1697-1706A	927-935A
Microporosity		
Simulation of microporosity formation in modified and unmodified A356 alloy castings.		1249-1260B
Mixing		
Mixing time and fluid flow phenomena in liquids of varying kinematic viscosities agitated by bottom gas injection.		569-575B
Modulus of elasticity		
Damage mechanisms in a cast ductile iron and a $\text{Al}_2\text{O}_3/\text{Al}$ composite.		2855-2862A
Modulus of elasticity, Composition effects		
Al-TiC composites in situ-processed by ingot metallurgy and rapid solidification technology. II. Mechanical behavior.		893-902A
Modulus of elasticity, Microstructural effects		
Physical constants, deformation twinning, and microcracking of titanium aluminides.		49-63A
Modulus of rupture in bending, Composition effects		
Mechanical property and fracture behavior of squeeze-cast Mg matrix composites.		2543-2554A
Molybdenum, Alloying additive		
Autogenous gas tungsten arc weldability of cast alloy Ti-48Al-2Cr-2Nb (at %) versus extruded alloy Ti-46Al-2Cr-2Nb-0.9Mo (at.%).		927-935A
Microstructural development and creep deformation in equaxed γ , $\gamma+\alpha_2$, and $\gamma+\alpha_2+B2$ titanium aluminides.		965-978A
Molybdenum, Alloying elements		
Continuous cooling transformation temperatures determined by compression tests in low carbon bainitic grades. Transformation during the isothermal deformation of low-carbon Nb-B steels.		989-1001A
Molybdenum, Diffusion		
Interfacial reaction-controlled reprecipitation of W atoms in liquid matrix phase during the sintering of W-8 wt.% Mo-7 % Ni-3% Fe.		1383-1394A
Molybdenum-tungsten interdiffusion and the influence on potassium bubbles in tungsten lamp wire.		2885-2892A
Molybdenum, Ternary systems		
Synthesis of nanocomposite thin films based on the Mo-Si-C ternary system and compositional tailoring through controlled ion bombardment.		2933-2939A
Molybdenum base alloys, Coatings		
Synthesis of nanocomposite thin films based on the Mo-Si-C ternary system and compositional tailoring through controlled ion bombardment.		1719-1725A
Molybdenum base alloys, Phases (state of matter)		
Ternary alloying study of MoSi ₂ .		119-129A
Molybdenum compounds, Coatings		
Synthesis of nanocomposite thin films based on the Mo-Si-C ternary system and compositional tailoring through controlled ion bombardment.		1719-1725A
Molybdenum compounds, Crystal growth		
Ternary alloying study of MoSi ₂ .		119-129A
Multilayers, Microstructure		
Strain-induced self-organization of steps and islands in SiGe/Si multilayer films.		2111-2119A
Nanomaterials, Coatings		
Synthesis of nanocomposite thin films based on the Mo-Si-C ternary system and compositional tailoring through controlled ion bombardment.		1719-1725A
Nanomaterials, Crystal growth		
Growth of semicoherent TiFe nanoparticles in β -Ti matrix in the $\text{Ti}_{73}\text{Fe}_{27}$ rapidly quenched ribbon.		131-137A
Nanomaterials, Mechanical properties		
Mechanical behavior of a bulk nanostructured iron alloy.		2261-2271A
Nanomaterials, Metallography		
The role of nanosized particles. A frontier in modern materials science, from nanoelectronics to environmental problems.		713-725A
Nanomaterials, Powder technology		
Microstructures and properties of nanocomposites obtained through SPTS consolidation of powders.		2253-2260A
Near net shaping		
Characterization of spray atomization of 3003 aluminum alloy during linear spray atomization and deposition.		793-806B
Liquid flow on a rotating disk prior to centrifugal atomization and spray deposition.		1357-1369B
Bulk amorphous metallic alloys: synthesis by fluxing techniques and properties.		1795-1804A

Nickel base alloys, Crystal growth	
Solidification of Nb-bearing superalloys. I. Reaction sequences.	2785-2796A
Solidification of Nb-bearing superalloys. II. Pseudoternary solidification surfaces.	2797-2806A
Nickel base alloys, Directional solidification	
Primary spacing in directional solidification.	1113-1119A
Nickel base alloys, Mechanical properties	
Plastic instability during creep deformation of a NiAl-Hf single-crystal alloy—a case study.	179-189A
The critical resolved shear stress of a superalloy as a combination of those of its γ matrix and γ' precipitates.	799-807A
Isolation of carbon and grain boundary carbide effects on the creep and intergranular stress corrosion cracking behavior of Ni-16Cr-9Fe-xC alloys in 360°C primary water.	1035-1046A
The influence of crystallographic orientation and strain rate on the high-temperature low-cyclic fatigue property of a nickel-base single-crystal superalloy.	1093-1099A
The effect of carbide precipitation on the hydrogen-enhanced fracture behavior of alloy 690.	1265-1277A
Parametric analysis of monocrystalline CMSX-4 creep and rupture data.	2645-2647A
Experimental and theoretical studies of the superposition of intergranular and macroscopic strains in Ni-based industrial alloys.	2967-2973A
Nickel base alloys, Microstructure	
Structure of bulk amorphous Pd-Ni-P alloys determined by synchrotron radiation.	1805-1809A
Ab initio studies of the electronic structure and energetics of bulk amorphous metals.	1845-1851A
Grain boundary segregation of boron in Inconel 718.	1947-1954A
Nickel base alloys, Phase transformations	
Effect of thermal cycling on the R-phase and martensitic transformations in a Ti-rich NiTi alloy.	1175-1180A
Evolution and thermal stability of Ni_3V and Ni_2V phases in a Ni-29 at.% V alloy.	1883-1894A
Superheating behavior of NiAl.	2221-2225A
Ordering and martensitic transformations of Ni_2AlMn Heusler alloys.	2225-2227A
Grain growth and carbide precipitation in superalloy, UDIMET 520.	2687-2695A
Recrystallization behavior of boron-doped $\text{Ni}_{76}\text{Al}_{24}$.	2893-2902A
Nickel base alloys, Phases (state of matter)	
Lattice constants and compositions of the metastable Ni_3Nb phase precipitated in a Ni-15Cr-8Fe-6Nb alloy.	1169-1174A
Determining interphase boundary orientations from near-coincidence sites.	2059-2072A
Nickel base alloys, Powder technology	
Multistage sintering process for Ni_3Al powder metallurgical products.	1069-1076B
Modeling of porosity during spray forming: I. Effects of processing parameters.	1085-1096B
Modeling of porosity during spray forming: II. Effects of atomization gas chemistry and alloy compositions.	1097-1106B
Nickel base alloys, Synthesis	
Formation mechanism of LaNi_5 in the reduction-diffusion process.	331-338B
Synthesis of ultrafine particles of intermetallic compounds by the vapor-phase magnesium reduction of chloride mixtures. II. Nickel aluminides.	465-469B
Reactive infiltration processing of aluminum-nickel intermetallic compounds.	2819-2828A
Nickel base alloys, Welding	
A combined solubility product/new PHACOMP approach for estimating temperatures of secondary solidification reactions in superalloy weld metals containing Nb and C.	1449-1456A
Improving the weldability and service performance of nickel- and iron-based superalloys by grain boundary engineering.	3069-3079A
Nickel chromium molybdenum steels, Heat treatment	
Calculation of ω/γ equilibria in SA508 grade 3 steels for intercritical heat treatment.	1441-1447A
Nickel chromium molybdenum steels, Mechanical properties	
Use of the nanoindentation technique for studying microstructure/crack interactions in the fatigue of 4340 steel.	3029-3036A
Nickel chromium molybdenum steels, Metal working	
Formability of stainless steel.	2161-2172A
Nickel chromium molybdenum steels, Phase transformations	
Stress-state effects on the stress-induced martensitic transformation of carburized 4320 steels.	427-437A
Nickel chromium steels, Mechanical properties	
Effects of test temperature on internal fatigue crack generation associated with nonmetallic particles in austenitic steels.	3017-3028A
Nickel compounds, Composite materials	
An investigation of toughening in NiAl composites reinforced with yttria-partially stabilized zirconia particles.	493-505A

Combustion characteristics of the Ni ₃ Ti-TiB ₂ intermetallic matrix composites.	867-875B	Nickel compounds, Composite materials	Effects of R-ratio on the fatigue crack growth of Nb-Si(ss) and Nb-10Si in situ composites.	1749-1757A
The effect of gravity on the combustion synthesis of metal-ceramic composites.	889-897B		Fracture toughness and R-curve behavior of laminated brittle-matrix composites.	2483-2496A
Thermomechanical behavior of TiNi shape memory alloy fiber reinforced 6061 aluminum matrix composite.	1127-1135A	Nickel compounds, Mechanical properties		
Nickel compounds, Mechanical properties		The Knoop-hardness yield locus of an orthorhombic titanium aluminide alloy.		1763-1765A
Plastic instability during creep deformation of a NiAl-Hf single-crystal alloy—a case study.	179-189A		An investigation of the fracture and fatigue crack growth behavior of forged damage-tolerant niobium aluminide intermetallics.	2361-2374A
Nickel compounds, Microstructure		Nickel compounds, Oxidation	Oxidation protection of Ti-aluminide orthorhombic alloys: an engineered multilayer approach.	1279-1288A
Effect of ordering energy and stoichiometry in $\Sigma=5$ boundaries in B2 compounds.	2655-2668A	Nickel compounds, Solubility	Thermodynamics of the Fe-Nb-C-N system and the solubility of niobium carbonitrides in austenite.	163-176B
Nickel compounds, Phase transformations		Nitrogen, Binary systems	Combined refinement of diffusion coefficients applied on the Nb-C and Nb-N systems.	439-446A
Effect of thermal cycling on the R-phase and martensitic transformations in a Ti-rich NiTi alloy.	1175-1180A	Nitrogen, Quaternary systems	Thermodynamics of the Fe-Nb-C-N system and the solubility of niobium carbonitrides in austenite.	163-176B
Superheating behavior of NiAl.	2221-2225A		Assessment of the Fe-Ti-C system, calculation of the Fe-Ti-N system, and prediction of the solubility limit of Ti(C,N) in liquid Fe.	371-384B
Ordering and martensitic transformations of Ni ₂ AlMn Heusler alloys.	2225-2227A	Nitrogen, Reactions (chemical)	Kinetics studies on the dissolution of nitrogen in the CaO-Al ₂ O ₃ -SiO ₂ and CaO-Al ₂ O ₃ -TiO _x melts.	1235-1240B
Recrystallization behavior of boron-doped Ni ₇₈ Al ₂₄ .	2893-2902A	Nitrogen, Ternary systems	Atomic arrangement and the formation of partially coherent interfaces in the Ti-V-N system.	2049-2058A
Nickel compounds, Powder technology		Nodular graphic structure	Influence of casting size and graphite nodule refinement on fracture toughness of austempered ductile iron.	2511-2521A
Multistage sintering process for Ni ₃ Al powder metallurgical products.	1069-1076B	Nodular iron, Mechanical properties	Solid particle erosion of an Fe-Fe ₃ C metal matrix composite.	1071-1079A
Nickel compounds, Reduction (chemical)			Influence of casting size and graphite nodule refinement on fracture toughness of austempered ductile iron.	2511-2521A
Communication: Reduction of FeWO ₄ -NiWO ₄ solid solutions by hydrogen gas.	1136-1139B		Damage mechanisms in a cast ductile iron and a Al ₂ O ₃ /Al composite.	2855-2862A
Nickel compounds, Synthesis			Dependence of fracture toughness of austempered ductile iron on austempering temperature.	3005-3016A
Formation mechanism of LaNi ₅ in the reduction-diffusion process.	331-338B	Nodular iron, Phase transformations	A transmission electron microscope study of 1% Mn ductile iron with different austempering treatments.	2297-2306A
Synthesis of ultrafine particles of intermetallic compounds by the vapor-phase magnesium reduction of chloride mixtures. II. Nickel aluminides.	465-469B	Nonferrous castings, Crystal growth	<110> dendrite growth in aluminum feathery grains.	2807-2817A
Reactive infiltration processing of aluminum-nickel intermetallic compounds.	2819-2828A	Nonferrous castings, Mechanical properties	Al-TiC composites in situ-processed by ingot metallurgy and rapid solidification technology. II. Mechanical behavior.	893-902A
Nickel mattes, Melting			Effect of temperature on silicon particle damage in A356 alloy.	905-907A
Transport phenomena in electric smelting of nickel matte. I. Electric potential distribution.	77-83B		Mechanical property and fracture behavior of squeeze-cast Mg matrix composites.	2543-2554A
Transport phenomena in electric smelting of nickel matte. II. Mathematical modeling.	85-94B	Nonferrous castings, Microstructure	Changes in microstructure during primary creep of a Ti-47Al-2Nb-1Mn-0.5W-0.5Mo-0.2Si alloy.	89-98A
Nickel ores, Reduction (chemical)			Structural transition and macrosegregation of Al-Cu eutectic alloy solidified in the electromagnetic centrifugal casting process.	404-408A
Modeling of multi gas-solid reactions; effect of bulk environment parameters on solid conversion.	229-238B	Nonferrous castings, Quality control	A novel method for the determination of the hydrogen solubility in aluminum and aluminum alloy melts.	421-427B
Evaluation of nickel flash smelting through piloting and simulation.	1329-1343B	Nonferrous castings, Welding	Autogenous gas tungsten arc weldability of cast alloy Ti-48Al-2Cr-2Nb (at.%) versus entruded alloy Ti-46Al-2Cr-2Nb-0.9Mo (at.%).	927-935A
The metal saturation line and tie-lines in the nickel-cobalt-sulfur ternary system between 1273 and 1573K.	1941-1945A	Nonferrous metals, Extraction	Particle suspension in (air-agitated) Pachuca tanks.	339-349B
Niobium, Alloying additive		Nonmetallic inclusions	Effects of test temperature on internal fatigue crack generation associated with nonmetallic particles in austenitic steels.	3017-3028A
Ternary alloying study of MoSi ₂ .	119-129A			
Effect of ferrite formation on abnormal austenite grain coarsening in low-alloy steels during the hot rolling process.	1375-1381A	Nonmetallic inclusions, Impurities	Upper acicular ferrite formation in a medium-carbon microalloyed steel by isothermal transformation: nucleation enhancement by CuS.	1003-1015A
Solidification of Nb-bearing superalloys. I. Reaction sequences.	2785-2796A	Nonmetallic inclusions, Reactions (chemical)	Reactive phosphide inclusions in commercial ferrosilicon.	325-329B
Solidification of Nb-bearing superalloys. II. Pseudoternary solidification surfaces.	2797-2806A	Notch sensitivity	Behavior and rupture of hydrided Zircaloy-4 tubes and sheets.	1643-1651A
Niobium, Alloying elements				
Ir-base refractory superalloys for ultra-high temperatures.	537-549A			
Continuous cooling transformation temperatures determined by compression tests in low carbon bainitic grades.	989-1001A			
Transformation during the isothermal deformation of low-carbon Nb-B steels.	1383-1394A			
Niobium, Binary systems				
Combined refinement of diffusion coefficients applied on the Nb-C and Nb-N systems.	439-446A			
Niobium, Composite materials				
Effects of R-ratio on the fatigue crack growth of Nb-Si(ss) and Nb-10Si in situ composites.	1749-1757A			
Fracture toughness and R-curve behavior of laminated brittle-matrix composites.	2483-2496A			
Niobium, Diffusion				
Interdiffusion in the carbides of the Nb-C system.	2717-2726A			
Niobium, Quaternary systems				
Thermodynamics of the Fe-Nb-C-N system and the solubility of niobium carbonitrides in austenite.	163-176B			
Niobium, Sorption				
Desorption kinetics of carbon and oxygen in liquid niobium.	1309-1314B			
Niobium base alloys, Composite materials				
Effects of R-ratio on the fatigue crack growth of Nb-Si(ss) and Nb-10Si in situ composites.	1749-1757A			
Niobium base alloys, Mechanical properties				
An investigation of the fracture and fatigue crack growth behavior of forged damage-tolerant niobium aluminide intermetallics.	2361-2374A			

Notch strength, Diffusion effects	Oxygen, Sorption	1309-1314B
Gaseous hydrogen embrittlement of a hydrided zirconium alloy.	Description kinetics of carbon and oxygen in liquid niobium.	
Nuclear fuel elements, Cladding	Pachucas, Design	339-349B
Gaseous hydrogen embrittlement of a hydrided zirconium alloy.	Particle suspension in (air-agitated) Pachuca tanks.	
Nuclear fusion reactors, Materials selection	Palladium, Binary systems	815-820B
Microstructural characterization of 5 to 9% Cr-2% W-V-Ta martensitic steels.	Standard enthalpies of formation for some samarium alloys, Sm+Me (Me=Ni, Rh, Pd, Pt), determined by high-temperature direct synthesis calorimetry.	
Nuclear magnetic resonance	Palladium, Diffusion	1593-1598A
In situ nuclear magnetic resonance investigation of strain, temperature, and strain-rate variations of deformation-induced vacancy concentration in aluminum.	Effect of dislocation trapping on deuterium diffusion in deformed, single-crystal Pd.	
Nuclear reactor components, Materials selection	Palladium base alloys, Casting	1795-1804A
Microstructural characterization of 5 to 9% Cr-2% W-V-Ta martensitic steels.	Bulk amorphous metallic alloys: synthesis by fluxing techniques and properties.	
Nucleation	Palladium base alloys, Diffusion	1023-1028A
Solidification and spangle formation of hot-dip-galvanized zinc coatings.	Hydrogen and deuterium in Pd-25% Ag alloy: permeation, diffusion, solubilization, and surface reaction.	
Al-TiC composites in situ-processed by ingot metallurgy and rapid solidification technology. I. Microstructural evolution. An analysis of the formation of bulk amorphous silicon from the melt.	Palladium base alloys, Microstructure	1805-1809A
Upper acicular ferrite formation in a medium-carbon microalloyed steel by isothermal transformation: nucleation enhancement by CuS.	Structure of bulk amorphous Pd-Ni-P alloys determined by synchrotron radiation.	1845-1851A
Offshore structures, Welding	Ab initio studies of the electronic structure and energetics of bulk amorphous metals.	
Influence of residual stresses and loading frequencies on corrosion fatigue crack growth behavior of weldments.	Particle shape	1057-1069A
Order disorder	Effect of tungsten particle shape on dynamic deformation and fracture behavior of tungsten heavy alloys.	
Ordering and martensitic transformations of Ni ₂ AlMn Heusler alloys.	Particle size	727-737A
Ores, Beneficiation	Characterizations of pore and constituent particle populations in 7050-T7451 aluminum plate alloys.	
Numerical and experimental study of a hydrodynamic cavitation tube.	Al-TiC composites in situ-processed by ingot metallurgy and rapid solidification technology. I. Microstructural evolution. Influence of casting size and graphite nodule refinement on fracture toughness of austempered ductile iron.	875-891A
Beneficiation of West Sibaya phosphate ores by flotation in alkaline media.	Effect of SiC volume fraction and particle size on the fatigue resistance of a 2080 Al/SiC _p composite.	2511-2521A
Evaluation of velocity-dependent in situ leaching processes: single-porosity model.	Particle size distribution	2843-2854A
Orientation relationships	Characterizations of pore and constituent particle populations in 7050-T7451 aluminum plate alloys.	
Microstructural investigation of a rapidly solidified 12Cr-Mo-V steel.	Al-TiC composites in situ-processed by ingot metallurgy and rapid solidification technology. I. Microstructural evolution. Directional dendrite solidification of a composite slurry. II. Particle distribution.	727-737A
Mitigating intergranular attack and growth in lead-acid battery electrodes for extended cycle and operating life.	Particulate composites, Casting	875-891A
Atomistic simulation of fracture in TiAl.	An analytical solution of the critical interface velocity for the encapturing of insoluble particles by a moving solid/liquid interface.	1329-1339A
The influence of crystallographic orientation and strain rate on the high-temperature low-cyclic fatigue property of a nickel-base single-crystal superalloy.	Al-TiC composites in situ-processed by ingot metallurgy and rapid solidification technology. I. Microstructural evolution. Al-TiC composites in situ-processed by ingot metallurgy and rapid solidification technology. II. Mechanical behavior.	351-358A
Comparison of cyclic deformation behavior between copper bicrystals and their component crystals.	Fabrication of Al-3 wt. % Mg matrix composites reinforced with Al ₂ O ₃ and SiC particulates by the pressureless infiltration technique.	893-902A
Experimental and theoretical studies of the superposition of intergranular and macroscopic strains in Ni-based industrial alloys.	Particulate composites, Crystal growth	3087-3095A
Orientation relationships, Deformation effects	Directional dendritic solidification of a composite slurry. I. Dendrite morphology.	
Microtexture evolution during annealing and superplastic deformation of Al-5% Ca-5% Zn.	Directional dendritic solidification of a composite slurry. II. Particle distribution.	1319-1327A
Heterogeneous microstructures and microtextures in cube-oriented Al crystals after channel die compression.	Particle engulfment and pushing by solidifying interfaces. I. Ground experiments.	1329-1339A
Osmium, Impurities	Particle engulfment and pushing by solidifying interfaces. II. Microgravity experiments and theoretical analysis.	1691-1696A
Distillation and rectification of osmium tetroxide solution in carbon tetrachloride.	Solidification processing of Al-Al ₂ O ₃ composite using turbine stirrer.	1697-1706A
Osmium compounds, Reactions (chemical)	Particulate composites, Mechanical properties	1711-1718A
Distillation and rectification of osmium tetroxide solution in carbon tetrachloride.	An investigation of toughening in NiAl composites reinforced with yttria-partially stabilized zirconia particles.	
Ostwald ripening	Transformation superplasticity of iron and Fe/TiC metal matrix composites.	493-505A
The sweep constant concept in phase coarsening.	Superplastic behavior and cavitation in high-strain-rate superplastic Si ₃ N ₄ /Al-Mg-Si composites.	565-575A
Oxidation resistance, Coating effects	Failure of SiC particulate-reinforced metal matrix composites induced by laser thermal shock.	677-683A
Oxidation protection of Ti-aluminide orthorhombic alloys: an engineered multilayer approach.	Effects of thickness and precracking on the fracture toughness of particle-reinforced Al-Al ₂ O ₃ composites.	685-692A
Oxidation resistance, High temperature effects	Microstructure and mechanical behavior of reaction hot-pressed titanium silicide and titanium silicide-based alloys and composites.	1237-1243A
Elevated-temperature oxidation behavior of titanium silicide and titanium silicide-based alloy and composite.	Dry sliding wear of a Ti ₅₀ Ni ₂₅ Cu ₂₅ particulate-reinforced aluminum matrix composite.	1629-1641A
Oxide coatings, Diffusion	Effects of R-ratio on the fatigue crack growth of Nb-Si(ss) and Nb-10Si in situ composites.	1741-1747A
Hydrogen uptake in titanium aluminides covered with oxide layers.	Dependence of thermal residual stress on temperature in a SiC particle-reinforced 6061 Al alloy.	1749-1757A
Oxides, Reduction (chemical)	Optimization of the strength-fracture toughness relation in particulate-reinforced aluminum composites via control of the matrix microstructure.	2001-2009A
Mechanically activated reduction of nickel oxide with graphite. Kinetics of carbochlorination of chromium(III) oxide.		2433-2446A
Oxygen, Solubility		
Thermodynamics of yttrium and oxygen in molten Ti, Ti ₃ Al, and TiAl.		

A comparison of the creep properties of an Al-6092 composite and the unreinforced matrix alloy.	2523-2531A	Evolution and thermal stability of Ni ₃ V and Ni ₂ V phases in a Ni-29 at.% V alloy.	1883-1894A
Effect of SiC volume fraction and particle size on the fatigue resistance of a 2080 Al/SiC _p composite.	2843-2854A	Transformation relaxation and aging in a CuZnAl shape-memory alloy studied by modulated differential scanning calorimetry.	2697-2705A
Damage mechanisms in a cast ductile iron and a Al ₂ O ₃ /Al composite.	2855-2862A		
Particulate composites, Melting		Phase stability, Alloying effects	
Monte Carlo simulation of clustering of alumina particles in turbulent liquid aluminum.	785-791B	Ternary alloying study of MoSi ₂ .	119-129A
Particulate composites, Oxidation		Phase transformations	
Elevated-temperature oxidation behavior of titanium silicide and titanium silicide-based alloy and composite.	1665-1675A	Alternative approach to the problem of additivity.	269-273B
		The motion of multiple height ledges and disconnections in phase transformations.	2033-2038A
Particulate composites, Phase transformations		Phosphates, Beneficiation	
Role of cold work and SiC reinforcements on the β'/β precipitation in Al-10% Mg alloy.	2835-2842A	Beneficiation of West Sibaiya phosphate ores by flotation in alkaline media.	1149-1156B
Particulate composites, Phases (state of matter)		Phosphides, Reactions (chemical)	
High-temperature phase equilibria in the Al-rich corner of the Al-Ti-C system.	1341-1345A	Reactive phosphide inclusions in commercial ferrosilicon.	325-329B
Particulate composites, Powder technology		Phosphorus, Diffusion	
The mechanism of formation of TiB ₂ particulates prepared by in situ reaction in molten aluminum.	635-640B	Surface segregation of phosphorus, carbon, and sulfur in commercial low-carbon grades of steel.	2707-2715A
Combustion characteristics of the Ni ₃ Ti-TiB ₂ intermetallic matrix composites.	867-875B		
Combustion synthesis of HfB ₂ -Al composites.	877-887B	Phosphorus, Reactions (chemical)	
The effect of gravity on the combustion synthesis of metal-ceramic composites.	889-897B	Reactive phosphide inclusions in commercial ferrosilicon.	325-329B
Formation of TiN/TiC-Fe composites from ilmenite (FeTiO ₃) concentrate.	1077-1083B	Phosphorus, Sorption	
Microstructures and properties of nanocomposites obtained through SPTS consolidation of powders.	2253-2260A	Grain boundary cracking.	509-518B
Particulate composites, Reactions (chemical)		Phosphorus, Ternary systems	
Chemical reactions between aluminum and fly ash during synthesis and reheating of Al-fly ash composite.	519-525B	Thermodynamic properties of the Fe-Cr-P liquid solution.	155-161B
A study on carbothermic reduction of ilmenite ore in a plasma reactor.	1175-1180B	Physical chemistry	
Passivation		The ion-association-interaction approach as applied to aqueous H ₂ SO ₄ -Al ₂ (SO ₄) ₃ -MgSO ₄ solutions at 250°C.	1021-1030B
Fundamental studies of copper anode passivation during electrorefining. III. The effect of thiourea.	53-58B	Physical simulation	
Penetration		Marangoni convection flow in NaNO ₃ -KNO ₃ mixture under microgravity.	987-991B
Hydrogen and deuterium in Pd-25% Ag alloy: permeation, diffusion, solubilization, and surface reaction.	1023-1028A	Experimental and mathematical investigation of the fluid flow inside and below a 1/4 scale air model of a flash smelting burner.	993-1006B
Peritectic reactions		The use of particle image velocimetry in the physical modeling of flow in electromagnetic or direct-chill casting of aluminum. I. Development of the physical model.	1281-1288B
Model of banding in diffusive and convective regimes during directional solidification of peritectic systems.	1457-1470A	The use of particle image velocimetry in the physical modeling of flow in electromagnetic or direct-chill casting of aluminum. II. Results of the physical model, including bag geometry, blockage, and nozzle placement.	1289-1295B
Permanent mold casting		Numerical investigation of the interface in a continuous steel casting mold water model.	1321-1327B
A correlation to describe interfacial heat transfer during solidification simulation and its use in the optimal feeding design of castings.	437-448B	Pilot plants	
A Monte Carlo approach for simulation of heat flow in sand and metal mold castings (virtual mold modeling).	495-499B	Evaluation of nickel flash smelting through piloting and simulation.	1329-1343B
Permanent mold castings, Crystal growth		Pipe, Rolling	
A correlation to describe interfacial heat transfer during solidification simulation and its use in the optimal feeding design of castings.	437-448B	Effect of ferrite formation on abnormal austenite grain coarsening in low-alloy steels during the hot rolling process.	1375-1381A
pH		Pitting (corrosion)	
Measurement of pH in the vicinity of a cathode during the chloride electrowinning of nickel.	1193-1198B	Effect of pitting corrosion in NaCl solutions on the statistics of fracture of beryllium.	2753-2760A
Phase boundary		Pitting (corrosion), Microstructural effects	
Determining interphase boundary orientations from near-coincidence sites.	2059-2072A	An analytical electron microscopy study of constituent particles in commercial 7075-T6 and 2024-T3 alloys.	1145-1151A
A free dendritic growth model accommodating curved phase boundaries and high Peclet number conditions.	3047-3056A	A transmission electron microscopy study of constituent-particle-induced corrosion in 7075-T6 and 2024-T3 aluminum alloys.	1153-1160A
Phase decomposition		Plasma arc surfacing	
Solidification microstructure and M ₂ C carbide decomposition in a spray-formed high-speed steel.	1395-1404A	On optimization of the powder plasma arc surfacing process.	929-931B
Transitions in carbide morphology in a ternary Fe-C-W steel.	2087-2100A	Plasma processing	
Nonclassical decomposition products of austenite in Fe-C-Cr alloys.	2913-2924A	Transmission electron microscope specimen preparation of Zn powders using the focused ion beam lift-out technique.	2399-2406A
The effect of geometrical assumptions in modeling solid-state transformation kinetics.	2925-2931A	Plasma processing, Russia	
Phase decomposition, Heating effects		An overview of some advanced surface technology in Russia.	593-610A
A transmission electron microscope study of 1% Mn ductile iron with different austempering treatments.	2297-2306A	Plasma spraying	
Phase diagram reactions		Wettability, surface tension, and reactivity of the molten manganese/zirconia-yttria ceramic system.	1121-1125A
Electrochemical determination of Gibbs energy of formation of NiTiO ₃ (ilmenite).	31-38B	Plastic deformation	
Discussion of "Uwakweh and Liu's Reply" and Authors' Reply.	2643-2645A	New grain formation during warm deformation of ferritic stainless steel.	161-167A
Phase diagrams		Quantitative analysis on boundary sliding and its accommodation mode during superplastic deformation of two-phase Ti-6Al-4V alloy.	217-226A
Discussion of "Uwakweh and Liu's Reply" and Authors' Reply.	2643-2645A	Correlation of dynamic torsional properties with adiabatic shear banding behavior in ballistically impacted aluminum-lithium alloys.	227-235A
Phase stability		Microstructural development of adiabatic shear bands formed by ballistic impact in a Weldalite 049 alloy.	477-483A
High-temperature phase equilibria in the Al-rich corner of the Al-Ti-C system.	1341-1345A	Microtexture evolution during annealing and superplastic deformation of Al-5% Ca-5% Zn.	485-492A

Cyclic deformation behavior of high-purity titanium single crystals. I. Orientation dependence of stress-strain response.	507-512A	The Knoop-hardness yield locus of an orthorhombic titanium aluminide alloy.	1763-1765A
Cyclic deformation behavior of high-purity titanium single crystals. II. Microstructure and mechanism.	513-518A	Heterogeneous microstructures and microtextures in cube-oriented Al crystals after channel die compression.	2333-2344A
Processing and mechanical properties of magnesium-lithium composites containing steel fibers.	863-873A		
High-temperature deformation behavior of the intermetallic Ti-47 at.% Al-3 at.% Cr alloy.	1425-1430A	Pollution abatement	283-291B
Test environments and mechanical properties of Zr-base bulk amorphous alloys.	1811-1820A	Factors affecting the immobilization of metals in geopolymersized flyash.	713-725A
Compressive deformation and energy absorbing characteristic of foamed aluminum.	2497-2502A	The role of nanosized particles. A frontier in modern materials science, from nanoelectronics to environmental problems.	
Noncontact ultrasonic spectroscopy on deforming polycrystalline copper: dislocation damping and acoustoelasticity.	2987-2993A	Polycrystals, Microstructure	
		On the relation between the number-weighted and volume-weighted grain volume distribution parameters.	3081-3086A
Plastic deformation, Microstructural effects			
Effect of tungsten particle shape on dynamic deformation and fracture behavior of tungsten heavy alloys.	1057-1069A	Polymerization	
The relationship between microstructure and the J-R curve.	1917-1922A	Review and modeling of viscosity of silicate melts. I. Viscosity of binary and ternary silicates containing CaO, MgO, and MnO.	177-186B
Experimental and theoretical studies of the superposition of intergranular and macroscopic strains in Ni-based industrial alloys.	2967-2973A	Review and modeling of viscosity of silicate melts. II. Viscosity of melts containing iron oxide in the CaO-MgO-MnO-FeO-Fe ₂ O ₃ -SiO ₂ system.	187-195B
		Factors affecting the immobilization of metals in geopolymersized flyash.	283-291B
Plastic deformation, Processing effects			
Mechanical behavior of a bulk nanostructured iron alloy.	2261-2271A	Porosity	
		Characterizations of pore and constituent particle populations in 7050-T7451 aluminum plate alloys.	727-737A
Plastic deformation, Shape effects	775-780A	Evaluation of velocity-dependent in situ leaching processes: single-porosity model.	1227-1234B
Flow localization in sheet specimens with pairs of holes.			
Plastic deformation, Stress effects		Porosity, Processing effects	
Torsion textures produced by dynamic recrystallization in α -iron and two interstitial-free steels.	447-462A	Modeling of porosity during spray forming: I. Effects of processing parameters.	1085-1096B
		Modeling of porosity during spray forming: II. Effects of atomizing gas chemistry and alloy compositions.	1097-1106B
Plastic deformation, Temperature effects			
Effect of test temperature on the dynamic torsional deformation behavior of two aluminum-lithium alloys.	469-476A	Postheating	
		Improving the weldability and service performance of nickel- and iron-based superalloys by grain boundary engineering.	3069-3079A
Plastic flow, Alloying effects			
Superplastic flow and cavitation in Zn-22% Al doped with Cu.	1653-1663A	Potassium, Dopants	
		Molybdenum-tungsten interdiffusion and the influence on potassium bubbles in tungsten lamp wire.	2933-2939A
Plastic flow, Shape effects	775-780A		
Flow localization in sheet specimens with pairs of holes.		Pourbaix diagrams	
		Isolation of carbon and grain boundary carbide effects on the creep and intergranular stress corrosion cracking behavior of Ni-16Cr-9Fe-xC alloys in 360°C primary water.	1035-1046A
Plasticity			
Crystal plasticity forming limit diagram analysis of rolled aluminum sheets.	527-535A	Powder compacts, Mechanical properties	
		The effect of density anisotropy on the yielding and flow behavior of partially consolidated powder compacts.	1471-1475A
Plasticity, Microstructural effects			
Enhancement of the mechanical properties of a low-carbon, low-silicon steel by formation of a multiphased microstructure containing retained austenite.	2383-2393A	Powder compacts, Microstructure	
		Transmission electron microscope specimen preparation of Zn powders using the focused ion beam lift-out technique.	2399-2406A
		A novel way of amorphous phase formation during mechanical alloying of copper and cadmium powders.	2425-2432A
Plate metal, Microstructure			
Characterizations of pore and constituent particle populations in 7050-T7451 aluminum plate alloys.	727-737A	Powder metallurgy parts, Metal working	
		Ductilization of a powder metallurgy Al-17 wt.% Cu by means of channel-die compression and extrusion.	2613-2620A
Plate metal, Welding			
Charpy V-notch properties and microstructures of narrow gap ferritic welds of a quenched and tempered steel plate.	2775-2784A	Powder metallurgy parts, Microstructure	
		Microstructural effects on distortion and solid-liquid segregation during liquid phase sintering under microgravity conditions.	857-866B
Platinum, Binary systems			
Standard enthalpies of formation for some samarium alloys, Sm+Me (Me=Ni, Rh, Pd, Pt), determined by high-temperature direct synthesis calorimetry.	815-820B	Praseodymium base alloys, Casting	
Thermodynamic properties and phase equilibria for Pt-Rh alloys.	1545-1550A	Ferromagnetic bulk amorphous alloys.	1779-1793A
Platinum, Coating			
Perovskite phase lead zirconate titanate thin film deposition on Pt/SiO ₂ /Si substrate at low temperature.	907-909A	Precipitates	
		Microstructural characterization of 5 to 9% Cr-2% W-V-Ta martensitic steels.	1551-1558A
Platinum, Electrical properties	69-76B	Dynamic interaction between a coherent precipitate and an edge dislocation.	2039-2048A
Peltier effects in electrode carbon.			
Platinum, Refining		Precipitates, Crystal growth	
Distillation and rectification of osmium tetroxide solution in carbon tetrachloride.	293-295B	Evolution and thermal stability of Ni ₃ V and Ni ₂ V phases in a Ni-29 at.% V alloy.	1883-1894A
		Transitions in carbide morphology in a ternary Fe-C-W steel.	2087-2100A
Platinum, Solubility		The effect of undercooling on the cellular precipitation reaction in Cu-3Ti.	2101-2110A
The influence of basicity on the solubility of platinum in oxide melts.	411-414B	Grain growth and carbide precipitation in superalloy, UDIMET 520.	2687-2695A
Platinum base alloys, Phases (state of matter)		Carbon migration in 5Cr-0.5Mo/21Cr-12Ni dissimilar metal welds.	3037-3046A
Thermodynamic properties and phase equilibria for Pt-Rh alloys.	1545-1550A		
Point defects, Deformation effects		Precipitates, Crystal lattices	
Physical constants, deformation twinning, and microcracking of titanium aluminides.	49-63A	Atomic arrangement and the formation of partially coherent interfaces in the Ti-V-N system.	2049-2058A
Poissons ratio, Microstructural effects		Precipitates, Deformation effects	
Physical constants, deformation twinning, and microcracking of titanium aluminides.	49-63A	Changes in microstructure during primary creep of a Ti-47Al-2Nb-1Mn-0.5W-0.5Mo-0.2Si alloy.	89-98A
Pole figures		Precipitation	
Microtexture evolution during annealing and superplastic deformation of Al-5% Ca-5% Zn.	485-492A	Microstructural characterization of the matrix in the SiC fiber-reinforced Ti-15-3 composite.	693-696A
Evolution of texture and microstructure in a thermomechanically processed Al-Li-Cu-Mg alloy.	665-675A		
Investigation of the annealing texture evolution in hafnium.	757-764A		
Damage process in commercially pure α -titanium alloy without (Ti40) and with (Ti40-H) hydrides.	1615-1628A		

Precipitation, Alloying effects

Volume 29

Grain boundary precipitation reactions in a wrought Fe-8Al-5Ni-2C alloy prepared by the conventional ingot process.	696-700A	Pressure castings, Mechanical properties	Effect of Y, Sr, and Nd additions on the microstructure and microfracture mechanism of squeeze-cast AZ91-X magnesium alloys.	1221-1235A
Transformation during the isothermal deformation of low-carbon Nb-B steels.	1383-1394A	Pressure leaching	The ion-association-interaction approach as applied to aqueous $H_2SO_4-Al_2(SO_4)_3-MgSO_4$ solutions at 250°C.	1021-1030B
Evolution and thermal stability of Ni_3V and Ni_2V phases in a Ni-29 at.% V alloy.	1883-1894A	Prestraining	Effect of prestrain on aging and bake hardening of cold-rolled, continuously annealed steel sheets.	463-467A
Transitions in carbide morphology in a ternary Fe-C-W steel.	2087-2100A		Thermomechanical behavior of TiNi shape memory alloy fiber reinforced 6061 aluminum matrix composite.	1127-1135A
The sweep constant concept in phase coarsening.	2395-2398A	Process control	Investigation of inclusion re-entrainment from the steel-slag interface.	641-649B
Characterization by thermoelectric power of a commercial aluminum-iron-silicon alloy (8011) during isothermal precipitation.	2669-2677A		Predictive control of aluminum electrolytic cells using neural networks.	1007-1019B
Grain growth and carbide precipitation in superalloy, UDIMET 520.	2687-2695A		Calculation of α/γ equilibria in SA508 grade 3 steels for intercritical heat treatment.	1441-1447A
Precipitation, Alloying effects		Process parameters	Evaluation of velocity-dependent in situ leaching processes: single-porosity model.	1227-1234B
Microstructural studies of a Cu-Zn-Al shape-memory alloy with manganese and zirconium addition.	1865-1871A	Protective coatings, Crystal growth	Solidification and spangle formation of hot-dip-galvanized zinc coatings.	631-646A
Effect of Mg and Sr additions on the formation of intermetallics in Al-6 wt.% Si-3.5 wt.% Cu-(0.45) to (0.8) wt.% Fe 319-type alloys.	2871-2884A		Evolution of aluminide coating microstructure on nickel-base cast superalloy CM-247 in a single-step high-activity aluminizing process.	2173-2188A
Precipitation, Cooling effects		Protective coatings, Diffusion	Hydrogen uptake in titanium aluminides covered with oxide layers.	307-314A
The effect of undercooling on the cellular precipitation reaction in Cu-3Ti.	2101-2110A	Protective coatings, Mechanical properties	Effects of sulfur impurity on the scale adhesion behavior of a desulfurized Ni-based superalloy aluminized by chemical vapor deposition.	833-841A
Precipitation, Deformation effects			Gaseous hydrogen embrittlement of a hydrided zirconium alloy.	1047-1056A
Microstructural development of adiabatic shear bands formed by ballistic impact in a Weldalite 049 alloy.	477-483A	Protective coatings, Microstructure	Surface segregation of phosphorus, carbon, and sulfur in commercial low-carbon grades of steel.	2707-2715A
Precipitation, Diffusion effects		Protective coatings, Oxidation	Oxidation protection of Ti-aluminide orthorhombic alloys: an engineered multilayer approach.	1279-1288A
Interfacial reaction-controlled reprecipitation of W atoms in liquid matrix phase during the sintering of W-8 wt.% Mo-7% Ni-3% Fe.	2885-2892A	Purification	Distillation and rectification of osmium tetroxide solution in carbon tetrachloride.	293-295B
Carbon migration in 5Cr-0.5Mo/21Cr-12Ni dissimilar metal welds.	3037-3046A		Removal of copper from carbon-saturated iron with an aluminum sulfide/ferrous sulfide flux.	493-495B
Precipitation, Heating effects			Chlorine fluxing for removal of magnesium from molten aluminum: I. Laboratory-scale measurements of reaction rates and bubble behavior.	971-978B
The effect of heat input on the microstructure and properties of nickel aluminum bronze laser clad with a consumable of composition Cu-9.0Al-4.6Ni-3.9Fe-1.2Mn.	1677-1690A		Chlorine fluxing for removal of magnesium from molten aluminum: II. Mathematical model.	979-986B
A transmission electron microscope study of 1% Mn ductile iron with different austempering treatments.	2297-2306A	Pyrite, Reactions (chemical)	The kinetics and mechanism of the pyrite-to-pyrrhotite transformation.	385-396B
Phase transformations in Ti-6.8Mo-4.5Fe-1.5Al.	2455-2467A	Pyrometallurgy	Synthesis of neodymium aluminide by aluminothermic reduction of neodymium oxide.	309-315B
Precipitation, Processing effects			Experimental study of phase equilibria in the systems PbO_x-CaO and $PbO_x-CaO-SiO_2$.	541-553B
Correlation between the cold-working and aging treatments in a Cu-15 wt.% Cr in situ composite.	2195-2203A		Kinetics of carbochlorination of chromium(III) oxide.	729-737B
Role of cold work and SiC reinforcements on the β'/β precipitation in Al-10% Mg alloy.	2835-2842A		Deoxidation of molten copper with a rotating graphite cylinder.	739-747B
Precipitation hardening			Chlorine fluxing for removal of magnesium from molten aluminum: I. Laboratory-scale measurements of reaction rates and bubble behavior.	971-978B
Age hardening and the potential for superplasticity in a fine-grained Al-Mg-Li-Zr alloy.	169-177A		Chlorine fluxing for removal of magnesium from molten aluminum: II. Mathematical model.	979-986B
On the characteristics of M_2C carbides in the peak hardening regime of AerMet 100 steel.	903-905A		Titanium powder production by $TiCl_4$ gas injection into magnesium through molten salts.	1167-1174B
Precipitation hardening alloys, Composite materials			A study on carbothermic reduction of ilmenite ore in a plasma reactor.	1175-1180B
Numerical analysis of the formability of an aluminum 2024 alloy sheet and its laminates with steel sheets.	2829-2834A		Thermodynamic model for MnO-containing slags and gas-slag-metal equilibrium in ferromanganese smelting.	1181-1191B
Precipitation hardening alloys, Mechanical properties			The metal saturation line and tie-lines in the nickel-cobalt-sulfur ternary system between 1273 and 1573K.	1941-1945A
Relationship between fracture toughness, fracture path, and microstructure of 7050 aluminum alloy. I. Quantitative characterization.	1191-1201A	Pyrrhotite, Reactions (chemical)	The kinetics and mechanism of the pyrite-to-pyrrhotite transformation.	385-396B
Relationship between fracture toughness, fracture path, and microstructure of 7050 aluminum alloy. II. Multiple micro-mechanisms-based fracture toughness model.	1203-1210A	Quaternary systems, Phases (state of matter)	Thermodynamics of the Fe-Nb-C-N system and the solubility of niobium carbonitrides in austenite.	163-176B
Precipitation hardening alloys, Phase transformations			Assessment of the Fe-Ti-C system, calculation of the Fe-Ti-N system, and prediction of the solubility limit of $Ti(C,N)$ in liquid Fe.	371-384B
Phase transformations in Ti-6.8Mo-4.5Fe-1.5Al.	2455-2467A			
Precipitation hardening alloys, Phases (state of matter)				
Lattice constants and compositions of the metastable Ni_3Nb phase precipitated in a Ni-15Cr-8Fe-6Nb alloy.	1169-1174A			
Precipitation hardening alloys, Structural hardening				
Age hardening and the potential for superplasticity in a fine-grained Al-Mg-Li-Zr alloy.	169-177A			
Precipitation hardening steels, Structural hardening				
On the characteristics of M_2C carbides in the peak hardening regime of AerMet 100 steel.	903-905A			
Precipitation heat treatment				
Optimization of the strength-fracture toughness relation in particulate-reinforced aluminum composites via control of the matrix microstructure.	2433-2446A			
Pressing				
Optimizing the rotation conditions for grain refinement in equal-channel angular pressing.	2011-2013A			
Microstructural characteristics of ultrafine-grained aluminum produced using equal-channel angular pressing.	2245-2252A			
Pressure casting				
Strength degradation of sapphire fibers during pressure casting of a sapphire-reinforced Ni-base superalloy.	1527-1530A			

Quenching (cooling)

Microstructure evolution through the $\alpha \rightarrow \gamma$ phase transformation in a Ti-48 at.% Al alloy.

19-26A

Quenching and tempering

Charpy V-notch properties and microstructures of narrow gap ferritic welds of a quenched and tempered steel plate.
Use of the nanoindentation technique for studying microstructure/crack interactions in the fatigue of 4340 steel.

2775-2784A
3029-3036A**Rapid solidification**

Microstructural investigation of a rapidly solidified 12Cr-Mo-V steel.
Grain boundary precipitation reactions in a wrought Fe-8Al-5Ni-2C alloy prepared by the conventional ingot process.
Al-TiC composites in situ-processed by ingot metallurgy and rapid solidification technology. I. Microstructural evolution.
Al-TiC composites in situ-processed by ingot metallurgy and rapid solidification technology. II. Mechanical behavior.
Ferromagnetic bulk amorphous alloys.
Evolution of microstructure and tensile strength of rapidly solidified Al-4.7% Zn-2.5% Mg-0.2% Zr-X wt.% Mn alloys.
Microstructural features and heat flow analysis of atomized and spray-formed Al-Fe-V-Si alloy.
Superheating behavior of NiAl.

367-376A
696-700A
875-891A
893-902A
1779-1793A
1873-1882A
2205-2219A
2221-2225A**Reaction kinetics**

Selective oxidation of copper from liquid copper-silver alloys.
Transport phenomena in electric smelting of nickel matte. II. Mathematical modeling.
Titania-assisted photoreduction of Cr(VI) to Cr(III) in aqueous media: kinetics and mechanisms.
The kinetics of deposphorization of carbon-saturated iron using an oxidizing slag.
The effect of surfactants on the interfacial rates of reaction of CO_2 and CO with liquid iron oxide.
A correlation method for determination of crystallization mechanism and activation energy of amorphous alloy.
A kinetic model of the Peirce-Smith converter. I. Model formulation and validation.
A kinetic model of the Peirce-Smith converter. II. Model application and discussion.
Kinetic modeling of minor element behavior in copper converting.
Alternative approach to the problem of additivity.
The effect of sulfur on the interfacial rates of reaction of CO_2 and CO with liquid copper.
Impact of sulfur loss on activity coefficient measurements of trace elements in matte.
Synthesis of neodymium aluminide by aluminothermic reduction of neodymium oxide.
Isothermal solidification kinetics of diffusion brazing.
Formation mechanism of LaNi_5 in the reduction-diffusion process.
Thermodynamic estimation on the reduction behavior of iron-chromium ore with carbon.
The kinetics and mechanism of the pyrite-to-pyrrhotite transformation.
Henrian activity coefficient of Pb in Cu-Fe mattes and white metal.
Mechanically activated reduction of nickel oxide with graphite.
Synthesis of ultrafine particles of intermetallic compounds by the vapor-phase magnesium reduction of chloride mixtures. I. Titanium aluminides.
Synthesis of ultrafine particles of intermetallic compounds by the vapor-phase magnesium reduction of chloride mixtures. II. Nickel aluminides.
Removal of copper from carbon-saturated iron with an aluminum sulfide/ferrous sulfide flux.
Tellurium distribution in copper anode slimes smelting.
Thermodynamic modeling of liquid Fe-Ni-Cu-Co-S mattes.
Kinetics of carbochlorination of chromium(III) oxide.
Al-TiC composites in situ-processed by ingot metallurgy and rapid solidification technology. I. Microstructural evolution.
Reduction of FeO in smelting slags by solid carbon: re-examination of the influence of the gas-carbon reaction.
Pressure acid leaching of laterites at 250°C: A solution chemical model and its applications.
Model for the ferric chloride leaching of galena.
Leaching kinetics of digenite concentrate in oxygenated chloride media at ambient pressure.
Chlorine fluxing for removal of magnesium from molten aluminum: I. Laboratory-scale measurements of reaction rates and bubble behavior.
Chlorine fluxing for removal of magnesium from molten aluminum: II. Mathematical model.
The ion-association-interaction approach as applied to aqueous $\text{H}_2\text{SO}_4\text{-Al}_2(\text{SO}_4)_3\text{-MgSO}_4$ solutions at 250°C.
A mathematical model for the solute drag effect on recrystallization.
Thermodynamic properties of aluminum, magnesium, and calcium in molten silicon.

39-51B
85-94B
95-104B
111-118B
137-145B
149-151A
239-249B
251-259B
261-268B
269-273B
296-298B
298-300B
309-315B
315-325A
331-338B
351-360B
385-396B
429-436B
449-455B
457-464B
465-469B
493-495B
555-562B
591-601B
729-737B
875-891A
935-938B
945-952B
953-960B
961-969B
971-978B
979-986B
1021-1030B
1029-1034A
1043-1049B

Mathematical modeling of the reduction process of iron ore particles in two stages of twin-fluidized beds connected in series.

1107-1115B

Communication: Estimation of isothermal values of activation energy for aluminothermic reduction.

1135-1136B

Communication: Reduction of $\text{FeWO}_4\text{-NiWO}_4$ solid solutions by hydrogen gas.

1136-1139B

Titanium powder production by TiCl_4 gas injection into magnesium through molten salts.

1167-1174B

Kinetics studies on the dissolution of nitrogen in the $\text{CaO}\text{-Al}_2\text{O}_3\text{-SiO}_2$ and $\text{CaO}\text{-Al}_2\text{O}_3\text{-TiO}_2$ melts.

1235-1240B

Kinetics of chlorination and oxychlorination of chromium(III) oxide.

1299-1308A

Experimental approaches to simulating interfacial reactions in metal matrix composites.

1347-1355A

Kinetics of strain aging in drawn pearlitic steels.

1415-1423A

Model of banding in diffusive and convective regimes during directional solidification of peritectic systems.

1457-1470A

Effect of interfacial kinetic barriers on interface motion in binary diffusion couples.

2021-2032A

Microstructural characteristics of 5083 Al alloys processed by reactive spray deposition for net-shape manufacturing.

2597-2611A

Grain growth and carbide precipitation in superalloy, UDIMET 520.

2687-2695A

Clusters in carbon martensite: thermodynamics and kinetics.

2903-2912A

The effect of geometrical assumptions in modeling solid-state transformation kinetics.

2925-2931A

A diffusion-kinetic model for predicting solder/conductor interactions in high density interconnections.

2951-2956A

Reaction kinetics, Composition effects

Characterization by thermoelectric power of a commercial aluminum-iron-silicon alloy (8011) during isothermal precipitation.

2669-2677A

Reaction kinetics, Deformation effects

Static recrystallization kinetics with homogeneous and heterogeneous nucleation using a cellular automata model.

2307-2321A

Reaction kinetics, Diffusion effects

Growth of δ' on dislocations in a dilute Al-Li alloy.

2073-2085A

Reaction kinetics, Heating effects

Phase transformation behavior of gamma titanium aluminide alloys during supertransus heat treatment.

7-18A

Chemical reactions between aluminum and fly ash during synthesis and reheating of Al-fly ash composite.

519-525B

Recrystallization behavior of boron-doped $\text{Ni}_{76}\text{Al}_{24}$.

2893-2902A

Reaction kinetics, High temperature effects

Elevated-temperature oxidation behavior of titanium silicide and titanium silicide-based alloy and composite.

1665-1675A

Reaction kinetics, Stress effects

Stress-assisted transformation in Ti-60 wt.% Ta alloys.

139-147A

Reactivity

Wettability, surface tension, and reactivity of the molten manganese/zirconia-yttria ceramic system.

1121-1125A

Recrystallization

A model for microstructure evolution in adiabatic shear bands.

191-203A

A mathematical model for the solute drag effect on recrystallization.

1029-1034A

Relationship between fracture toughness, fracture path, and microstructure of 7050 aluminum alloy. I. Quantitative characterization.

1191-1201A

Relationship between fracture toughness, fracture path, and microstructure of 7050 aluminum alloy. II. Multiple micro-mechanisms-based fracture toughness model.

1203-1210A

Recrystallization, Deformation effects

Modeling the microstructural changes during hot tandem rolling of AA5XXX aluminum alloys. I. Microstructural evolution.

611-620B

Modeling the microstructural changes during hot tandem rolling of AA5XXX aluminum alloys. II. Textural evolution.

621-633B

Modeling the microstructural changes during hot tandem rolling of AA5XXX aluminum alloys. III. Overall model development and validation.

709-719B

Static recrystallization kinetics with homogeneous and heterogeneous nucleation using a cellular automata model.

2307-2321A

Recrystallization, Heating effects

Recrystallization behavior of boron-doped $\text{Ni}_{76}\text{Al}_{24}$.

2893-2902A

Recrystallization, Processing effects

Correlation between the cold-working and aging treatments in a Cu-15 wt.% Cr in situ composite.

2195-2203A

Reduction of area, Diffusion effects

Gaseous hydrogen embrittlement of a hydrided zirconium alloy.

1047-1056A

Refining

Mixing time and fluid flow phenomena in liquids of varying kinematic viscosities agitated by bottom gas injection.

569-575B

Effects of pore diameter, bath surface pressure, and nozzle diameter on the bubble formation from a porous nozzle.

1209-1218B

Effect of cross-flow on the frequency of bubble formation from a single-hole nozzle.	1219-1225B	Ruthenium, Binary systems A thermodynamic study of Ru-Sn binary alloys.	577-581B
Refractories, Corrosion Surface interactions between fayalite slags and synthetic spinels and solid solutions.	317-323B	Ruthenium, Impurities Distillation and rectification of osmium tetroxide solution in carbon tetrachloride.	293-295B
Refractories, Thermal properties Model for temperature profile estimation in the refractory of a metallurgical ladle.	651-659B	Ruthenium base alloys, Phases (state of matter) A thermodynamic study of Ru-Sn binary alloys.	577-581B
Refractory metals, Recovering Kinetics of chlorination and oxychlorination of chromium(III) oxide.	1299-1308A	Rutile, Reduction (chemical) Carbochlorination kinetics of titanium dioxide with carbon and carbon monoxide as reductant.	1297-1307B
Reinforcing steels, Composite materials Processing and mechanical properties of magnesium-lithium composites containing steel fibers.	863-873A	S N diagrams The influence of crystallographic orientation and strain rate on the high-temperature low-cyclic fatigue property of a nickel-base single-crystal superalloy.	1093-1099A
Residual stress Stress formation in solidifying bodies. Solidification in a round continuous casting mold.	1057-1068B	Samarium, Binary systems Standard enthalpies of formation for some samarium alloys, Sm+Me (Me=Ni, Rh, Pd, Pt), determined by high-temperature direct synthesis calorimetry.	815-820B
Influence of residual stresses and loading frequencies on corrosion fatigue crack growth behavior of weldments.	1289-1298A	Samarium base alloys, Phases (state of matter) Standard enthalpies of formation for some samarium alloys, Sm+Me (Me=Ni, Rh, Pd, Pt), determined by high-temperature direct synthesis calorimetry.	815-820B
The effects of residual macrostresses and microstresses on fatigue crack propagation.	2127-2136A	Sand casting A Monte Carlo approach for simulation of heat flow in sand and metal mold castings (virtual mold modeling).	495-499B
Residual stress, Microstructural effects Coherency stresses in lamellar Ti-Al.	937-942A	Sand casting, Quality control Fluid flow in casting rigging systems: modeling, validation, and optimal design.	679-690B
Residual stress, Temperature effects Dependence of thermal residual stress on temperature in a SiC particle-reinforced 6061 Al alloy.	2001-2009A	Sand castings, Quality control Fluid flow in casting rigging systems: modeling, validation, and optimal design.	679-690B
Resistivity, Alloying effects Microstructure and properties of Cu-C pseudoalloy films prepared by sputter deposition.	647-658A	Sapphire, Composite materials Fiber fragmentation during processing of metallic matrix composites. Strength degradation of sapphire fibers during pressure casting of a sapphire-reinforced Ni-base superalloy.	1499-1507A 1527-1530A
Resistivity, Deformation effects Kinetics of strain aging in drawn pearlitic steels.	1415-1423A	Scale (corrosion), Welding effects Role of microstructural degradation in the heat-affected zone of 2.25Cr-1Mo steel weldments on subscale features during steam oxidation and their role in weld failures.	577-586A
Retained austenite Enhancement of the mechanical properties of a low-carbon, low-silicon steel by formation of a multiphased microstructure containing retained austenite.	2383-2393A	Segregations Microsegregation behavior during solidification and homogenization of AerMet100 steel. Prevention of macrosegregation in squeeze casting of an Al-4.5 wt% Cu alloy. The influence of temperature gradient zone melting on microsegregation. Structural transition and macrosegregation of Al-Cu eutectic alloy solidified in the electromagnetic centrifugal casting process. Numerical simulation of macrosegregation: a comparison between finite volume method and finite element method predictions and a confrontation with experiments. Modeling freckle formation in three dimensions during solidification of multicomponent alloys. Microstructural effects on distortion and solid-liquid segregation during liquid phase sintering under microgravity conditions. A mathematical model for the solute drag effect on recrystallization. Grain boundary segregation of boron in Inconel 718. Simplified computation of macrosegregation in multicomponent aluminum alloys. Discussion of "Effect of dendrite arm coarsening on microsegregation" and authors' reply. Surface segregation of phosphorus, carbon, and sulfur in commercial low-carbon grades of steel.	205-210B 341-351A 361-367A 404-408A 617-630A 847-855B 857-866B 1029-1034A 1947-1954A 2189-2194A 2447-2450A 2707-2715A
Retained austenite, Phase transformations A transmission electron microscope study of 1% Mn ductile iron with different austempering treatments.	2297-2306A		
Retained austenite, Stress effects Stress-state effects on the stress-induced martensitic transformation of carburized 4320 steels.	427-437A		
Rhodium, Binary systems Standard enthalpies of formation for some samarium alloys, Sm+Me (Me=Ni, Rh, Pd, Pt), determined by high-temperature direct synthesis calorimetry.	815-820B		
Thermodynamic properties and phase equilibria for Pt-Rh alloys.	1545-1550A		
Rhodium, Ternary systems F-type icosahedral phase and a related cubic phase in the Al-Rh-Cu system.	1559-1563A		
Rhodium base alloys, Phases (state of matter) Thermodynamic properties and phase equilibria for Pt-Rh alloys.	1545-1550A		
Rigidity, Processing effects Shape distortion in liquid-phase-sintered tungsten heavy alloys.	2631-2638A		
Rods, Powder technology A three-dimensional model of the spray forming method.	699-708B		
Rolling Processing and mechanical properties of magnesium-lithium composites containing steel fibers.	863-873A		
Rolling mill rolls, Service life Investigation of thermomechanical behavior of a work roll and of roll life in hot strip rolling.	2407-2424A		
Rolling texture Modeling the microstructural changes during hot tandem rolling of AA5XXX aluminum alloys. I. Microstructural evolution. Modeling the microstructural changes during hot tandem rolling of AA5XXX aluminum alloys. II. Textural evolution. Modeling the microstructural changes during hot tandem rolling of AA5XXX aluminum alloys. III. Overall model development and validation.	611-620B 621-633B 709-719B		
Room temperature Processing-property-microstructure relationships in TiAl-based alloys.	919-925A	Self-propagating synthesis Combustion characteristics of the Ni ₃ Ti-TiB ₂ intermetallic matrix composites. Combustion synthesis of HfB ₂ -Al composites.	867-875B 877-887B
Roughness, Deformation effects Analysis of ridging in aluminum auto body sheet metal.	2323-2332A	Self-propagating synthesis, Field effects The effect of gravity on the combustion synthesis of metal-ceramic composites.	889-897B
Rupturing Behavior and rupture of hydrided Zircaloy-4 tubes and sheets.	1643-1651A	Semiconductors, Metallography The role of nanosized particles. A frontier in modern materials science, from nanoelectronics to environmental problems.	713-725A
		Semiconductors, Solubility Discussion of "Retrograde solubility in semiconductors" and author's reply.	1525-1527A
		Separation Numerical and experimental study of a hydrodynamic cavitation tube.	911-917B

Serrated yielding

In situ nuclear magnetic resonance investigation of strain, temperature, and strain-rate variations of deformation-induced vacancy concentration in aluminum.

153-159A

Silicon, Alloying elements

Sliding wear behavior of some Al-Si alloys: role of shape and size of Si particles and test conditions.

2747-2752A

Shape memory, Alloying effects

Microstructural studies of a Cu-Zn-Al shape-memory alloy with manganese and zirconium addition.

1865-1871A

Silicon, Coating

Perovskite phase lead zirconate titanate thin film deposition on Pt/SiO₂/Si substrate at low temperature.

907-909A

Shape memory, Stress effects

Stress-induced martensitic phase transformations in polycrystalline CuZnAl shape memory alloys under different stress states.

765-773A

Silicon, Composite materials

Effects of R-ratio on the fatigue crack growth of Nb-Si(ss) and Nb-10Si in situ composites.

1749-1757A

Shape memory alloys, Composite materials

Thermomechanical behavior of TiNi shape memory alloy fiber reinforced 6061 aluminum matrix composite.

1127-1135A

Silicon, Magnetic properties

Effect of processing conditions on drop behavior in an electromagnetic levitator.

223-228B

Shape memory alloys, Phase transformations

Stress-induced martensitic phase transformations in polycrystalline CuZnAl shape memory alloys under different stress states.

765-773A

Silicon, Microstructure

An analysis of the formation of bulk amorphous silicon from the melt.

1825-1828A

Strain-induced self-organization of steps and islands in SiGe/Si multilayer films.

2111-2119A

Silicon, Reactions (chemical)

Thermodynamic properties of aluminum, magnesium, and calcium in molten silicon.

1043-1049B

Silicon, Ternary systems

Thermochemistry of ternary liquid Cu-Mg-Si alloys.

807-813B

Synthesis of nanocomposite thin films based on the Mo-Si-C ternary system and compositional tailoring through controlled ion bombardment.

1719-1725A

On the observation of a new ternary MgSiCa phase in Mg-Si alloys.

1759-1763A

Silicon carbide, Coatings

Synthesis of nanocomposite thin films based on the Mo-Si-C ternary system and compositional tailoring through controlled ion bombardment.

1719-1725A

Silicon carbide, Composite materials

An analytical solution of the critical interface velocity for the encapturing of insoluble particles by a moving solid/liquid interface.

351-358A

Failure of SiC particulate-reinforced metal matrix composites induced by laser thermal shock.

685-692A

Microstructural characterization of the matrix in the SiC fiber-reinforced Ti-15-3 composite.

693-696A

Effects of thickness and precracking on the fracture toughness of particle-reinforced Al-Al₂O₃ composites.

1237-1243A

Directional dendritic solidification of a composite slurry. I. Dendrite morphology.

1319-1327A

Directional dendritic solidification of a composite slurry. II. Particle distribution.

1329-1339A

Experimental approaches to simulating interfacial reactions in metal matrix composites.

1347-1355A

Dependence of thermal residual stress on temperature in a SiC particle-reinforced 6061 Al alloy.

2001-2009A

Optimization of the strength-fracture toughness relation in particulate-reinforced aluminum composites via control of the matrix microstructure.

2433-2446A

A comparison of the creep properties of an Al-6092 composite and the unreinforced matrix alloy.

2523-2531A

Interface-controlled fatigue cracking of SCS-6/Ti-22Al-23Nb "orthorhombic" titanium aluminide composite.

2737-2746A

Role of cold work and SiC reinforcements on the β' / β precipitation in Al-10% Mg alloy.

2835-2842A

Effect of SiC volume fraction and particle size on the fatigue resistance of a 2080 Al/SiC_p composite.

2843-2854A

Fabrication of Al-3 wt.% Mg matrix composites reinforced with Al₂O₃ and SiC particulates by the pressureless infiltration technique.

3087-3095A

Silicon compounds, Microstructure

Strain-induced self-organization of steps and islands in SiGe/Si multilayer films.

2111-2119A

Silicon dioxide, Coating

Perovskite phase lead zirconate titanate thin film deposition on Pt/SiO₂/Si substrate at low temperature.

907-909A

Silicon dioxide, Reactions (chemical)

Activities of SiO₂ and Al₂O₃ and activity coefficients of Fe₂O₃ and MnO in CaO-SiO₂-Al₂O₃-MgO slags.

119-129B

Thermodynamics of chromium oxides in CaO-SiO₂-CaF₂ slag.

131-136B

Review and modeling of viscosity of silicate melts. I. Viscosity of binary and ternary silicates containing CaO, MgO, and MnO.

177-186B

Review and modeling of viscosity of silicate melts. II. Viscosity of melts containing iron oxide in the CaO-MgO-MnO-Fe-O-Fe₂O₃-SiO₂ system.

187-195B

Formation of hexavalent chromium by reaction between slag and magnesite-chrome refractory.

405-410B

Experimental study of phase equilibria in the systems PbO_x-CaO and PbO_x-CaO-SiO₂.

541-553B

Silicon nitride, Composite materials

Superplastic behavior and cavitation in high-strain-rate superplastic Si₃N₄/Al-Mg-Si composites.

677-683A

Silicides, Crystal growth

Ternary alloying study of MoSi₂.

119-129A

Silicon, Alloying additive

Solidification of Nb-bearing superalloys. I. Reaction sequences.

2785-2796A

Solidification of Nb-bearing superalloys. II. Pseudoternary solidification surfaces.

2797-2806A

Silver, Brazing		
Isothermal solidification kinetics of diffusion brazing.	315-325A	
Silver, Mechanical properties		
Grain boundary cracking.	509-518B	
Simulation		
A correlation to describe interfacial heat transfer during solidification simulation and its use in the optimal feeding design of castings.	437-448B	
Simplified simulation of the transient behavior of temperatures in the upper shaft of the blast furnace.	691-697B	
Experimental approaches to simulating interfacial reactions in metal matrix composites.	1347-1355A	
Single crystals, Crystal growth		
Marangoni convection flow in $\text{NaNO}_3\text{-KNO}_3$ mixture under microgravity.	987-991B	
Single crystals, Mechanical properties		
Tension and compression testing of single-crystalline gamma Ti-55.5% Al.	65-71A	
Plastic instability during creep deformation of a NiAl-Hf single-crystal alloy—a case study.	179-189A	
Cyclic deformation behavior of high-purity titanium single crystals. I. Orientation dependence of stress-strain response.	507-512A	
Cyclic deformation behavior of high-purity titanium single crystals. II. Microstructure and mechanism.	513-518A	
The influence of crystallographic orientation and strain rate on the high-temperature low-cyclic fatigue property of a nickel-base single-crystal superalloy.	1093-1099A	
Sintered compacts, Mechanical properties		
In situ strength evolution during the sintering of bronze powders.	1257-1263A	
Sintered compacts, Microstructure		
An examination of the interparticle contact area during sintering of W-0.3 wt.% Co.	1309-1317A	
Sintered compacts, Physical properties		
The effect of tungsten particle size on the processing and properties of infiltrated W-Cu compacts.	1509-1516A	
Sintering (powder metallurgy)		
Multistage sintering process for Ni_3Al powder metallurgical products.	1069-1076B	
In situ strength evolution during the sintering of bronze powders.	1257-1263A	
An examination of the interparticle contact area during sintering of W-0.3 wt.% Co.	1309-1317A	
Liquidlike sintering behavior of nanometric Fe and Cu powders: experimental approach.	2941-2949A	
Slab casting		
Fractal analysis of the surface cracks on continuously cast steel slabs.	1261-1267B	
Slags, Diffusion		
Interdiffusivities and mass transfer coefficients of NaF gas.	763-771B	
Slags, Physical properties		
Modeling mean flow and turbulence characteristics in gas-agitated bath with top layer.	211-222B	
Mixing time and fluid flow phenomena in liquids of varying kinematic viscosities agitated by bottom gas injection.	569-575B	
Slags, Reactions (chemical)		
The kinetics of deposphorization of carbon-saturated iron using an oxidizing slag.	111-118B	
Activities of SiO_2 and Al_2O_3 and activity coefficients of Fe_3O_4 and MnO in $\text{CaO}\text{-SiO}_2\text{-Al}_2\text{O}_3\text{-MgO}$ Slags.	119-129B	
Thermodynamics of chromium oxides in $\text{CaO}\text{-SiO}_2\text{-CaF}_2$ slag. Phosphorus distribution between carbon-saturated iron at 1350°C and lime-based slags containing Na_2O and CaF_2 .	131-136B	
Surface interactions between fayalite slags and synthetic spinels and solid solutions.	147-153B	
Formation of hexavalent chromium by reaction between slag and magnesite-chrome refractory.	317-323B	
Experimental study of phase equilibria in the systems $\text{PbO}_x\text{-CaO}$ and $\text{PbO}_x\text{-CaO-SiO}_2$.	405-410B	
Effects of CaO , Al_2O_3 , and MgO additions on the copper solubility, ferric/ferrous ratio, and minor-element behavior of iron-silicate slags.	541-553B	
Investigation of inclusion re-entrainment from the steel-slag interface.	583-590B	
Iron redox equilibria in $\text{CaO}\text{-Al}_2\text{O}_3\text{-SiO}_2$ and $\text{MgO}\text{-CaO-Al}_2\text{O}_3\text{-SiO}_2$ slags.	641-649B	
Reduction of FeO in smelting slags by solid carbon: re-examination of the influence of the gas-carbon reaction.	837-845B	
Thermodynamic model for MnO-containing slags and gas-slag-metal equilibrium in ferromanganese smelting.	935-938B	
Kinetics studies on the dissolution of nitrogen in the $\text{CaO}\text{-Al}_2\text{O}_3\text{-SiO}_2$ and $\text{CaO}\text{-Al}_2\text{O}_3\text{-TiO}_2$ melts.	1181-1191B	
Activities in the spinel solid solution $\text{Fe}_x\text{Mg}_{1-x}\text{Al}_2\text{O}_4$.	1235-1240B	
The metal saturation line and tie-lines in the nickel-cobalt-sulfur ternary system between 1273 and 1573K.	1241-1248B	
	1941-1945A	
Slags, Thermal properties		
Modeling the heat flow to an operating Sirosmelt lance.	485-492B	
Sliding friction		
Sliding wear response of a zinc-based alloy compared to a copper-based alloy.	1245-1255A	
Sliding friction, Composition effects		
Dry sliding wear of a $\text{Ti}_{50}\text{Ni}_{25}\text{Cu}_{25}$ particulate-reinforced aluminum matrix composite.	1741-1747A	
Sliding wear behavior of some Al-Si alloys: role of shape and size of Si particles and test conditions.	2747-2752A	
Slip planes		
Correlation of dynamic torsional properties with adiabatic shear banding behavior in ballistically impacted aluminum-lithium alloys.	227-235A	
Creep and rupture properties of an austenitic Fe-30Mn-9Al-1C alloy.	299-306A	
Slip planes, Deformation effects		
A model for microstructure evolution in adiabatic shear bands. Microstructural development of adiabatic shear bands formed by ballistic impact in a Wealdalite 049 alloy.	191-203A	
Cyclic deformation behavior of high-purity titanium single crystals. II. Microstructure and mechanism.	477-483A	
513-518A		
Smelting		
Transport phenomena in electric smelting of nickel matte. I. Electric potential distribution.	77-83B	
Transport phenomena in electric smelting of nickel matte. II. Mathematical modeling.	85-94B	
Modeling the heat flow to an operating Sirosmelt lance.	485-492B	
Tellurium distribution in copper anode slimes smelting.	555-562B	
Effects of CaO , Al_2O_3 , and MgO additions on the copper solubility, ferric/ferrous ratio, and minor-element behavior of iron-silicate slags.	583-590B	
Thermodynamic modeling of liquid Fe-Ni-Cu-Co-S mattes.	591-601B	
Iron redox equilibria in $\text{CaO}\text{-Al}_2\text{O}_3\text{-SiO}_2$ and $\text{MgO}\text{-CaO-Al}_2\text{O}_3\text{-SiO}_2$ slags.	837-845B	
Reduction of FeO in smelting slags by solid carbon: re-examination of the influence of the gas-carbon reaction.	935-938B	
A study on carbothermic reduction of ilmenite ore in a plasma reactor.	1175-1180B	
Thermodynamic model for MnO-containing slags and gas-slag-metal equilibrium in ferromanganese smelting.	1181-1191B	
Soderberg electrodes, Electrochemistry		
Transport phenomena in electric smelting of nickel matte. I. Electric potential distribution.	77-83B	
Sodium compounds, Reactions (chemical)		
Phosphorus distribution between carbon-saturated iron at 1350°C and lime-based slags containing Na_2O and CaF_2 .	147-153B	
Sodium fluoride, Diffusion		
Interdiffusivities and mass transfer coefficients of NaF gas.	763-771B	
Soldered joints, Diffusion		
A diffusion-kinetic model for predicting solder/conductor interactions in high density interconnections.	2951-2956A	
Solders, Diffusion		
A diffusion-kinetic model for predicting solder/conductor interactions in high density interconnections.	2951-2956A	
Solders, Thermal properties		
Determination of the melting and solidification characteristics of solders using differential scanning calorimetry.	1965-1972A	
Solid phases		
Effect of phase morphology on fatigue crack growth behavior of $\alpha\text{-}\beta$ -titanium alloy—a crack closure rationale.	245-261A	
Microstructural characterization of the matrix in the SiC fiber-reinforced Ti-15-3 composite.	693-696A	
Grain boundary precipitation reactions in a wrought Fe-8Al-5Ni-2C alloy prepared by the conventional ingot process.	696-700A	
Solid phases, Diffusion		
A diffusion solution for the melting/dissolution of a solid at constant temperature and its use for measuring the diffusion coefficient in liquids.	751-755A	
Solidification		
Microsegregation behavior during solidification and homogenization of AerMet100 steel.	205-210B	
Isothermal solidification kinetics of diffusion brazing.	315-325A	
The influence of temperature gradient zone melting on microsegregation.	361-367A	
Structural transition and macrosegregation of Al-Cu eutectic alloy solidified in the electromagnetic centrifugal casting process.	404-408A	
A correlation to describe interfacial heat transfer during solidification simulation and its use in the optimal feeding design of castings.	437-448B	
Chemical reactions between aluminum and fly ash during synthesis and reheating of Al-fly ash composite.	519-525B	

Numerical simulation of macrosegregation: a comparison between finite volume method and finite element method predictions and a confrontation with experiments.	617-630A	Spot welding Autogenous gas tungsten arc weldability of cast alloy Ti-4Al-2Cr-2Nb (at.%) versus extruded alloy Ti-4Al-2Cr-2Nb-0.9Mo (at.%).	927-935A
Solidification and spangle formation of hot-dip-galvanized zinc coatings.	631-646A		
Solidification of a ternary metal alloy: a comparison of experimental measurements and model predictions in a Pb-Sb-Sn system.	843-853A	Spray cooling Analytical/finite-element modeling and experimental verification of spray-cooling process in steel.	1485-1498A
Modeling freckle formation in three dimensions during solidification of multicomponent alloys.	847-855B		
Marangoni convection flow in $\text{NaNO}_3\text{-KNO}_3$ mixture under microgravity.	987-991B	Spray forming A three-dimensional model of the spray forming method. Characterization of spray atomization of 3003 aluminum alloy during linear spray atomization and deposition.	699-708B 793-806B
The movement of the concave casting surface during mushy-type solidification and its effect on the heat-transfer coefficient.	1051-1056B	Modeling of porosity during spray forming: I. Effects of processing parameters.	1085-1096B
Stress formation in solidifying bodies. Solidification in a round continuous casting mold.	1057-1068B	Modeling of porosity during spray forming: II. Effects of atomization gas chemistry and alloy compositions.	1097-1106B
Solidification behavior and microstructural evolution during laser beam-material interaction.	1269-1279B	Liquid flow on a rotating disk prior to centrifugal atomization and spray deposition.	1357-1369B
Directional dendritic solidification of a composite slurry. I. Dendrite morphology.	1319-1327A	Solidification microstructure and M_2C carbide decomposition in a spray-formed high-speed steel.	1395-1404A
Directional dendritic solidification of a composite slurry. II. Particle distribution.	1329-1339A	Microstructural features and heat flow analysis of atomized and spray-formed Al-Fe-V-Si alloy.	2205-2219A
Mathematical simulation on coupled flow, heat, and solute transport in slab continuous casting process.	1345-1356B	Microstructural characteristics of 5083 Al alloys processed by reactive spray deposition for net-shape manufacturing.	2597-2611A
Solidification microstructure and M_2C carbide decomposition in a spray-formed high-speed steel.	1395-1404A		
Solidification processing of $\text{Al-Al}_2\text{O}_3$ composite using turbine stirrer.	1711-1718A	Sprayed coatings, Reactions (chemical) Wettability, surface tension, and reactivity of the molten manganese/zirconia-yttria ceramic system.	1121-1125A
Determination of the melting and solidification characteristics of solders using differential scanning calorimetry.	1965-1972A		
Simplified computation of macrosegregation in multicomponent aluminum alloys.	2189-2194A	Spring steels, Mechanical properties A strain energy-based approach to the low-cycle fatigue damage mechanism in a high-strength spring steel.	1431-1439A
A free dendritic growth model accommodating curved phase boundaries and high Peclét number conditions.	3047-3056A	Sputtered coatings, Phases (state of matter) Synthesis of nanocomposite thin films based on the Mo-Si-C ternary system and compositional tailoring through controlled ion bombardment.	1719-1725A
Solidification, Alloying effects		Sputtering Microstructure and properties of Cu-C pseudoalloy films prepared by sputter deposition.	647-658A
Solidification of Nb-bearing superalloys. I. Reaction sequences.	2785-2796A	Synthesis of nanocomposite thin films based on the Mo-Si-C ternary system and compositional tailoring through controlled ion bombardment.	1719-1725A
Solidification of Nb-bearing superalloys. II. Pseudoternary solidification surfaces.	2797-2806A		
Solidification, Composition effects		Squeeze casting Effect of Y, Sr, and Nd additions on the microstructure and microfracture mechanism of squeeze-cast AZ91-X magnesium alloys.	1221-1235A
An analytical solution of the critical interface velocity for the encapturing of insoluble particles by a moving solid/liquid interface.	351-358A	Effect of interfacial reaction on bending strength of $\text{Al}_{18}\text{B}_4\text{O}_{33}$ whisker-reinforced aluminum composites.	1517-1524A
Solidification, Field effects		Control of interfacial reactions during liquid phase processing of aluminum matrix composites reinforced with Inconel 601 fibers.	1727-1739A
The unidirectional solidification of Al-4 wt.% Cu ingots in microgravity.	1101-1111A	Mechanical property and fracture behavior of squeeze-cast Mg matrix composites.	2543-2554A
The influence of gravity-related convection on secondary arm evolution in $\text{NH}_4\text{Cl-H}_2\text{O}$.	1137-1139A		
An investigation of the effects caused by electromagnetic vibrations in a hypereutectic Al-Si alloy melt.	1477-1484A	Squeeze casting, Quality control Prevention of macrosegregation in squeeze casting of an Al-4.5 wt.% Cu alloy.	341-351A
Solubility			
Hydrogen and deuterium in Pd-25% Ag alloy: permeation, diffusion, solubilization, and surface reaction.	1023-1028A	Stability, Microstructural effects Structure of bulk amorphous Pd-Ni-P alloys determined by synchrotron radiation.	1805-1809A
Solubility, pH effects			
The influence of basicity on the solubility of platinum in oxide melts.	411-414B	Stacking faults Atomistic simulation of fracture in TiAl.	951-955A
Solution heat treatment			
Correlation between the cold-working and aging treatments in a Cu-15 wt.% Cr in situ composite.	2195-2203A	Stainless steels, Steel making Thermodynamic estimation on the reduction behavior of iron-chromium ore with carbon.	351-360B
Phase transformations in Ti-6.8Mo-4.5Fe-1.5Al.	2455-2467A		
Space environment			
The unidirectional solidification of Al-4 wt.% Cu ingots in microgravity.	1101-1111A	Statistical methods Grain size estimation in anisotropic materials.	237-244A
The influence of gravity-related convection on secondary arm evolution in $\text{NH}_4\text{Cl-H}_2\text{O}$.	1137-1139A		
Specific heat, Temperature effects		Steam, Environment Role of microstructural degradation in the heat-affected zone of 2.25Cr-1Mo steel weldments on subscale features during steam oxidation and their role in weld failures.	577-586A
Metastability and thermophysical properties of metallic bulk glass forming alloys.	1829-1835A		
Thermodynamic and kinetic properties of amorphous and liquid states.	1837-1843A	Steels, Casting Investigation of inclusion re-entrainment from the steel-slag interface.	641-649B
Spectroscopy		Model for temperature profile estimation in the refractory of a metallurgical ladle.	651-659B
Noncontact ultrasonic spectroscopy on deforming polycrystalline copper: dislocation damping and acoustoelasticity.	2987-2993A	Numerical investigation of the free surface in a continuous steel casting mold model.	1117-1126B
Spin glasses, Casting		Fractal analysis of the surface cracks on continuously cast steel slabs.	1261-1267B
Bulk amorphous metallic alloys: synthesis by fluxing techniques and properties.	1795-1804A	Numerical investigation of the interface in a continuous steel casting mold water model.	1321-1327B
Spinel, Corrosion		Mathematical simulation on coupled flow, heat, and solute transport in slab continuous casting process.	1345-1356B
Surface interactions between fayalite slags and synthetic spinels and solid solutions.	317-323B		
Spinel, Reactions (chemical)		Steels, Coating The effect of iron oxide as an inhibition layer on iron-zinc reactions during hot-dip galvanizing.	479-484B
Activities in the spinel solid solution $\text{Fe}_x\text{Mg}_{1-x}\text{Al}_2\text{O}_4$.	1241-1248B		
Spinodal decomposition			
Computer simulation and experimental investigation of the spinodal decomposition in the β Ti-Cr binary alloy system.	739-749A		

Steels, Composite materials		High-temperature deformation of commercial-purity aluminum.	2345-2359A
Numerical analysis of the formability of an aluminum 2024 alloy sheet and its laminates with steel sheets.	2829-2834A		
Steels, End uses		Straining	
Comparison of grinding kinetics between a typical ball mill and a ball mill fitted with a breaker plate.	17-22B	Influence of hydrostatic pressure and multiaxial straining on cavitating superplastic materials.	2555-2561A
Steels, Heat treatment		Stress corrosion cracking, Alloying effects	
A computational model for the prediction of steel hardenability.	661-672B	Isolation of carbon and grain boundary carbide effects on the creep and intergranular stress corrosion cracking behavior of Ni-16Cr-9Fe-xC alloys in 360°C primary water.	1035-1046A
Steels, Mechanical properties		Stress corrosion cracking, Microstructural effects	
Torsion textures produced by dynamic recrystallization in α -iron and two interstitial-free steels.	447-462A	Mitigating intergranular attack and growth in lead-acid battery electrodes for extended cycle and operating life.	387-396A
Effect of prestrain on aging and bake hardening of cold-rolled, continuously annealed steel sheets.	463-467A		
Grain boundary cracking.	509-518B	Stress intensity	
Steels, Metal working		A model for roughness-induced fatigue crack closure.	1933-1939A
Kinetics of strain aging in drawn pearlitic steels.	1415-1423A	Stress relaxation, Temperature effects	
Steels, Microstructure		Temperature-dependent void-sheet fracture in Al-Cu-Mg-Ag-Zr.	1599-1613A
On the relation between the number-weighted and volume-weighted grain volume distribution parameters.	3081-3086A		
Steels, Phase transformations		Stress strain curves	
The effect of geometrical assumptions in modeling solid-state transformation kinetics.	2925-2931A	Effect of test temperature on the dynamic torsional deformation behavior of two aluminum-lithium alloys.	469-476A
Steels, Recycling		Cyclic deformation behavior of high-purity titanium single crystals. I. Orientation dependence of stress-strain response.	507-512A
Removal of copper from carbon-saturated iron with an aluminum sulfide/ferrous sulfide flux.	493-495B	Ir-base refractory superalloys for ultra-high temperatures.	537-549A
Steels, Rolling		Formability of stainless steel.	2161-2172A
Investigation of thermomechanical behavior of a work roll and of roll life in hot strip rolling.	2407-2424A	Microstructures and properties of nanocomposites obtained through SPTS consolidation of powders.	2253-2260A
Steels, Steel making		High-temperature deformation of commercial-purity aluminum.	2345-2359A
The kinetics of dephosphorization of carbon-saturated iron using an oxidizing slag.	111-118B	Compressive deformation and energy absorbing characteristic of foamed aluminum.	2497-2502A
Modeling mean flow and turbulence characteristics in gas-agitated bath with top layer.	211-222B	Factors influencing the equilibrium grain size in equal-channel angular pressing: role of Mg addition to aluminum.	2503-2510A
Formation of hexavalent chromium by reaction between slag and magnesite-chrome refractory.	405-410B	Comparison of cyclic deformation behavior between copper bicrystals and their component crystals.	2563-2569A
Equilibrium of calcium vapor with liquid iron and the interaction of third elements.	415-420B	Numerical analysis of the formability of an aluminum 2024 alloy sheet and its laminates with steel sheets.	2829-2834A
Water model study of the frequency of bubble formation under reduced and elevated pressures.	755-761B	Microstructural and mechanical behavior of a duplex stainless steel under hot working conditions.	2975-2986A
Interdiffusivities and mass transfer coefficients of NaF gas.	763-771B		
Decay of fluid motion in a filling ladle after tapping.	931-935B	Stress strain curves, Microstructural effects	
Steels, Welding		Stress-assisted transformation in Ti-60 wt.% Ta alloys.	139-147A
Charpy V-notch properties and microstructures of narrow gap ferritic welds of a quenched and tempered steel plate.	2775-2784A		
Stiffness, Microstructural effects		Stresses, Diffusion effects	
Physical constants, deformation twinning, and microcracking of titanium aluminides.	49-63A	Chemical stresses induced by grain-boundary diffusion.	2121-2125A
Stirring		Strip, Rolling	
Solidification processing of Al-Al ₂ O ₃ composite using turbine stirrer.	1711-1718A	Investigation of thermomechanical behavior of a work roll and of roll life in hot strip rolling.	2407-2424A
Stoichiometry		Strontium, Alloying additive	
Effect of ordering energy and stoichiometry in $\Sigma=5$ boundaries in B2 compounds.	2655-2668A	Effect of Y, Sr, and Nd additions on the microstructure and microfracture mechanism of squeeze-cast AZ91-X magnesium alloys.	1221-1235A
Strain		Effect of Mg and Sr additions on the formation of intermetallics in Al-6 wt.% Si-3.5 wt.% Cu-(0.45) to (0.8) wt.% Fe 319-type alloys.	2871-2884A
Strain-induced self-organization of steps and islands in SiGe/Si multilayer films.	2111-2119A		
Strain aging		Structural materials, Mechanical properties	
In situ nuclear magnetic resonance investigation of strain, temperature, and strain-rate variations of deformation-induced vacancy concentration in aluminum.	153-159A	Effect of temperature on silicon particle damage in A356 alloy.	905-907A
Kinetics of strain aging in drawn pearlitic steels.	1415-1423A		
Strain hardening		Submerged arc welding	
Effect of matrix constitutive behavior and inclusions on forming limits of Fe-42% Ni alloy sheet.	289-298A	A study of the structure of dissimilar submerged arc welds. Charpy V-notch properties and microstructures of narrow gap ferritic welds of a quenched and tempered steel plate.	823-832A
Strain hardening, Microstructural effects			2775-2784A
The relationship between microstructure and the J-R curve.	1917-1922A		
Strain hardening, Temperature effects		Sulfides, Impurities	
Temperature-dependent void-sheet fracture in Al-Cu-Mg-Ag-Zr.	1599-1613A	Upper acicular ferrite formation in a medium-carbon microalloyed steel by isothermal transformation: nucleation enhancement by CuS.	1003-1015A
Strain rate		Sulfur, Diffusion	
In situ nuclear magnetic resonance investigation of strain, temperature, and strain-rate variations of deformation-induced vacancy concentration in aluminum.	153-159A	Surface segregation of phosphorus, carbon, and sulfur in commercial low-carbon grades of steel.	2707-2715A
A model for microstructure evolution in adiabatic shear bands.	191-203A		
Tensile properties and fracture toughness of a Ti-45Al-1.6Mn alloy at loading velocities of up to 12 m/s.	263-277A	Sulfur, Impurities	
Superplastic behavior and cavitation in high-strain-rate superplastic Si ₃ N ₄ /Al-Mg-Si composites.	677-683A	Effects of sulfur impurity on the scale adhesion behavior of a desulfurized Ni-based superalloy aluminized by chemical vapor deposition.	833-841A
The influence of crystallographic orientation and strain rate on the high-temperature low-cyclic fatigue property of a nickel-base single-crystal superalloy.	1093-1099A	Sulfur, Reactions (chemical)	
Formability of stainless steel.	2161-2172A	The effect of sulfur on the interfacial rates of reaction of CO ₂ and CO with liquid copper.	296-298B
		Influence of melt carbon and sulfur on the wetting of solid graphite by Fe-C-S melts.	471-477B
		Thermodynamic modeling of liquid Fe-Ni-Cu-Co-S mattes.	591-601B
		The metal saturation line and tie-lines in the nickel-cobalt-sulfur ternary system between 1273 and 1573K.	1941-1945A
		Sulfur, Trace elements	
		Impact of sulfur loss on activity coefficient measurements of trace elements in matte.	298-300B
		Sulfuric acid leaching	
		Physicochemical and structural factors in the sulfuric acid leaching of nickel- and copper-bearing synthetic birnessites.	527-540B

Superalloys, Coating		Superplasticity, Deformation effects	
Effects of sulfur impurity on the scale adhesion behavior of a desulfurized Ni-based superalloy aluminized by chemical vapor deposition.	833-841A	Superplastic behavior and cavitation in high-strain-rate superplastic $\text{Si}_3\text{N}_4/\text{Al}-\text{Mg}-\text{Si}$ composites.	677-683A
Evolution of aluminate coating microstructure on nickel-base cast superalloy CM-247 in a single-step high-activity aluminaizing process.	2173-2188A	Superplasticity, Microstructural effects	
		A study of superplasticity in a modified 5083 Al-Mg-Mn alloy. Fabrication of bulk ultrafine-grained materials through intense plastic straining.	1211-1220A
			2237-2243A
Superalloys, Composite materials		Surface structure	
Fiber fragmentation during processing of metallic matrix composites.	1499-1507A	Surface segregation of phosphorus, carbon, and sulfur in commercial low-carbon grades of steel.	2707-2715A
Strength degradation of sapphire fibers during pressure casting of a sapphire-reinforced Ni-base superalloy.	1527-1530A	Surface tension	
Control of interfacial reactions during liquid phase processing of aluminum matrix composites reinforced with Inconel 601 fibers.	1727-1739A	Interfacial tension between aluminum and NaCl-KCl-based salt systems. Wettability, surface tension, and reactivity of the molten manganese/zirconia-yttria ceramic system.	821-827B
			1121-1125A
Superalloys, Crystal growth		Surface tension, Field effects	
Solidification of Nb-bearing superalloys. I. Reaction sequences.	2785-2796A	Surface tension measurements on liquid metals in microgravity.	1031-1035B
Solidification of Nb-bearing superalloys. II. Pseudoternary solidification surfaces.	2797-2806A	Surfactants, Reactions (chemical)	
		The effect of surfactants on the interfacial rates of reaction of CO_2 and CO with liquid iron oxide.	137-145B
Superalloys, Directional solidification		Swaging	
Primary spacing in directional solidification.	1113-1119A	Processing and mechanical properties of magnesium-lithium composites containing steel fibers.	863-873A
Superalloys, Mechanical properties		Tantalum, Alloying elements	
The critical resolved shear stress of a superalloy as a combination of those of its γ matrix and γ' precipitates.	799-807A	Ir-base refractory superalloys for ultra-high temperatures.	537-549A
The influence of crystallographic orientation and strain rate on the high-temperature low-cyclic fatigue property of a nickel-base single-crystal superalloy.	1093-1099A	Tantalum, Crystal growth	
The effect of carbide precipitation on the hydrogen-enhanced fracture behavior of alloy 690.	1265-1277A	A model for microstructure evolution in adiabatic shear bands.	191-203A
Parametric analysis of monocrystalline CMSX-4 creep and rupture data.	2645-2647A	Tantalum base alloys, Phase transformations	
		Stress-assisted transformation in Ti-60 wt % Ta alloys.	139-147A
Superalloys, Microstructure		Tapes (metallic), Microstructure	
Grain boundary segregation of boron in Inconel 718.	1947-1954A	Microstructural investigation of a rapidly solidified 12Cr-Mo-V steel.	367-376A
Superalloys, Phase transformations		Tapes (metallic), Phase transformations	
Grain growth and carbide precipitation in superalloy, UDIMET 520.	2687-2695A	Growth of semicoherent TiFe nanoparticles in β -Ti matrix in the $\text{Ti}_{73}\text{Fe}_{27}$ rapidly quenched ribbon.	131-137A
Superalloys, Phases (state of matter)		Tapping (pouring)	
Lattice constants and compositions of the metastable Ni_3Nb phase precipitated in a Ni-15Cr-8Fe-6Nb alloy.	1169-1174A	Decay of fluid motion in a filling ladle after tapping.	931-935B
Determining interphase boundary orientations from near-coincidence sites.	2059-2072A	Tearing, Composition effects	
		Effects of R-ratio on the fatigue crack growth of Nb-Si(ss) and Nb-10Si in situ composites.	1749-1757A
Superalloys, Powder technology		Tellurium, Reactions (chemical)	
Modeling of porosity during spray forming: I. Effects of processing parameters.	1085-1096B	Tellurium distribution in copper anode slimes smelting.	555-562B
Modeling of porosity during spray forming: II. Effects of atomization gas chemistry and alloy compositions.	1097-1106B	Temperature distribution	
		Effect of processing conditions on drop behavior in an electromagnetic levitator. Model for temperature profile estimation in the refractory of a metallurgical ladle.	223-228B
			651-659B
Superalloys, Welding		Temperature distribution, Processing effects	
Improving the weldability and service performance of nickel- and iron-based superalloys by grain boundary engineering.	3069-3079A	The free-surface shape and temperature distribution produced in liquid metal droplets by heating coil pulses in the TEMPUS electromagnetic levitation facility.	1127-1134B
Supercooling		Tensile strength	
Ferromagnetic bulk amorphous alloys.	1779-1793A	A novel approach for predicting the tensile strength of brazed joints.	587-592A
The effect of undercooling on the cellular precipitation reaction in Cu-3Ti.	2101-2110A	Tensile strength, Alloying effects	
Superheating behavior of NiAl.	2221-2225A	Ir-base refractory superalloys for ultra-high temperatures.	537-549A
Superheating		Tensile strength, Composition effects	
Superheating behavior of NiAl.	2221-2225A	Al-TiC composites in situ-processed by ingot metallurgy and rapid solidification technology. II. Mechanical behavior.	893-902A
Superlattices, Deformation effects		Tensile strength, Deformation effects	
Strain-induced self-organization of steps and islands in SiGe/Si multilayer films.	2111-2119A	Tensile properties and fracture toughness of a Ti-45Al-1.6Mn alloy at loading velocities of up to 12 m/s.	263-277A
Superplastic forming		Processing and mechanical properties of magnesium-lithium composites containing steel fibers.	863-873A
Quantitative analysis on boundary sliding and its accommodation mode during superplastic deformation of two-phase Ti-6Al-4V alloy.	217-226A	Processing-property-microstructure relationships in TiAl-based alloys.	919-925A
Microtexture evolution during annealing and superplastic deformation of Al-5% Ca-5% Zn.	485-492A	Evolution of microstructure and tensile strength of rapidly solidified Al-4.7% Zn-2.5% Mg-0.2% Zr-X wt % Mn alloys.	1873-1882A
Influence of hydrostatic pressure and multiaxial straining on cavitating superplastic materials.	2555-2561A	Microstructures and properties of nanocomposites obtained through SPTS consolidation of powders.	2253-2260A
Microstructural characteristics of 5083 Al alloys processed by reactive spray deposition for net-shape manufacturing.	2597-2611A	Tensile strength, Diffusion effects	
		Gaseous hydrogen embrittlement of a hydrided zirconium alloy.	1047-1056A
Superplasticity		Tensile strength, Microstructural effects	
Influence of hydrostatic pressure and multiaxial straining on cavitating superplastic materials.	2555-2561A	Supertransus processing of TiAl-based alloys.	27-36A
Transformation superplasticity of zirconium.	2571-2582A	Tensile strength, Processing effects	
A theoretical investigation of the effect of material properties and cavity architecture/shape on ductile failure during the hot tension test.	2621-2630A	Strength degradation of sapphire fibers during pressure casting of a sapphire-reinforced Ni-base superalloy.	1527-1530A
Superplasticity, Alloying effects			
Superplastic flow and cavitation in Zn-22% Al doped with Cu.	1653-1663A		
Superplasticity, Composition effects			
Transformation superplasticity of iron and Fe/TiC metal matrix composites.	565-575A		

Tensile stress

Correlation between the cold-working and aging treatments in a Cu-15 wt.% Cr in situ composite.	2195-2203A	Assessment of the Fe-Ti system.	361-370B
Tensile stress		Assessment of the Fe-Ti-C system, calculation of the Fe-Ti-N system, and prediction of the solubility limit of Ti(C,N) in liquid Fe.	371-384B
Stress-state effects on the stress-induced martensitic transformation of carburized 4320 steels.	427-437A	Thermodynamic assessment of liquid Fe-Mn-C system.	397-403B
The effect of environment on high-temperature hold time fatigue behavior of annealed 2.25Cr-1Mo steel.	2137-2145A	Equilibrium of calcium vapor with liquid iron and the interaction of third elements.	415-420B
Tension tests		Hennian activity coefficient of Pb in Cu-Fe mattes and white metal.	429-436B
Tension and compression testing of single-crystalline gamma Ti-55.5% Al.	65-71A	Mechanically activated reduction of nickel oxide with graphite.	449-455B
A theoretical investigation of the effect of material properties and cavity architecture/shape on ductile failure during the hot tension test.	2621-2630A	Synthesis of ultrafine particles of intermetallic compounds by the vapor-phase magnesium reduction of chloride mixtures. I. Titanium aluminides.	457-464B
Ternary systems, Phases (state of matter)		Synthesis of ultrafine particles of intermetallic compounds by the vapor-phase magnesium reduction of chloride mixtures. II. Nickel aluminides.	465-469B
Thermodynamic properties of the Fe-Cr-P liquid solution.	155-161B	Experimental study of phase equilibria in the systems PbO_x-CaO and $PbO_x-CaO-SiO_2$.	541-553B
Assessment of the Fe-Ti-C system, calculation of the Fe-Ti-N system, and prediction of the solubility limit of Ti(C,N) in liquid Fe.	371-384B	Tellurium distribution in copper anode slimes smelting.	555-562B
Thermodynamic assessment of liquid Fe-Mn-C system.	397-403B	A thermodynamic study of Ru-Sn binary alloys.	577-581B
Thermodynamics and hase equilibria in the Al-In-Sb system.	611-616A	Thermodynamic modeling of liquid Fe-Ni-Cu-Co-S mattes.	591-601B
Thermochemistry of ternary liquid Cu-Mg-Si alloys.	807-813B	Thermodynamics and hase equilibria in the Al-In-Sb system.	611-616A
High-temperature phase equilibria in the Al-rich corner of the Al-Ti-C system.	1341-1345A	Thermochemistry of ternary liquid Cu-Mg-Si alloys.	807-813B
F-type icosahedral phase and a related cubic phase in the Al-Rh-Cu system.	1559-1563A	Thermodynamics of yttrium and oxygen in molten Ti, Ti_3Al , and $TiAl$.	1037-1042B
Synthesis of nanocomposite thin films based on the Mo-Si-C ternary system and compositional tailoring through controlled ion bombardment.	1719-1725A	Thermodynamic model for MnO-containing slags and gas-slag-metal equilibrium in ferromanganese smelting.	1181-1191B
On the observation of a new ternary MgSiCa phase in Mg-Si alloys.	1759-1763A	Carbochlorination kinetics of titanium dioxide with carbon and carbon monoxide as reductant.	1297-1307B
Atomic arrangement and the formation of partially coherent interfaces in the Ti-V-N system.	2049-2058A	A strain energy-based approach to the low-cycle fatigue damage mechanism in a high-strength spring steel.	1431-1439A
Discussion of "Uwakweh and Liu's Reply" and Authors' Reply.	2643-2645A	Calculation of α/γ equilibria in SA508 grade 3 steels for intercritical heat treatment.	1441-1447A
Texture, Deformation effects		Discussion of "Retrograde solubility in semiconductors" and author's reply.	1525-1527A
Torsion textures produced by dynamic recrystallization in α -iron and two interstitial-free steels.	447-462A	Effect of interfacial kinetic barriers on interface motion in binary diffusion couples.	2021-2032A
Microtexture evolution during annealing and superplastic deformation of Al-5% Ca-5% Zn.	485-492A	Clusters in carbon martensite: thermodynamics and kinetics.	2903-2912A
Evolution of texture and microstructure in a thermomechanically processed Al-Li-Cu-Mg alloy.	665-675A	Thermomechanical properties, Composition effects	
Heterogeneous microstructures and microtextures in cube-oriented Al crystals after channel die compression.	2333-2344A	Thermomechanical behavior of TiNi shape memory alloy fiber reinforced 6061 aluminum matrix composite.	1127-1135A
Texture, Heating effects		Thermomechanical treatment	
Investigation of the annealing texture evolution in hafnium.	757-764A	Evolution of texture and microstructure in a thermomechanically processed Al-Li-Cu-Mg alloy.	665-675A
Thermal barriers, Mechanical properties		Processing-property-microstructure relationships in TiAl-based alloys.	919-925A
Effects of sulfur impurity on the scale adhesion behavior of a desulfurized Ni-based superalloy aluminized by chemical vapor deposition.	833-841A	Ductilization of a powder metallurgy Al-17 wt.% Cu by means of channel-die compression and extrusion.	2613-2620A
Thermal conductivity		Thickness	
Modeling the heat flow to an operating Sirosmelt lance.	485-492B	Effects of thickness and precracking on the fracture toughness of particle-reinforced Al-alloy composites.	1237-1243A
Thermal cycling		Thin films, Electrical properties	
Effect of thermal cycling on the R-phase and martensitic transformations in a Ti-rich NiTi alloy.	1175-1180A	Microstructure and properties of Cu-C pseudoalloy films prepared by sputter deposition.	647-658A
Thermal cycling, Composite materials		Tin, Binary systems	
Transformation superplasticity of iron and Fe/TiC metal matrix composites.	565-575A	A thermodynamic study of Ru-Sn binary alloys.	577-581B
Thermal expansion, Microstructural effects		Tin, Diffusion	
Physical constants, deformation twinning, and microcracking of titanium aluminides.	49-63A	A diffusion-kinetic model for predicting solder/conductor interactions in high density interconnections.	2951-2956A
Thermal fatigue		Tin, Melting	
Thermomechanical fatigue behavior of the high-temperature titanium alloy IMI 834.	2995-3004A	A mathematical model for the dynamic behavior of metals subjected to electromagnetic forces. I. Model development and comparison of predictions with published experimental results.	919-928B
Thermal shock		Tin base alloys, Crystal growth	
Failure of SiC particulate-reinforced metal matrix composites induced by laser thermal shock.	685-692A	Numerical simulation of macrosegregation: a comparison between finite volume method and finite element method predictions and a confrontation with experiments.	617-630A
Thermal stability		A free dendritic growth model accommodating curved phase boundaries and high Pelet number conditions.	3047-3056A
Evolution and thermal stability of Ni_3V and Ni_2V phases in a Ni-29 at.% V alloy.	1883-1894A	Tin base alloys, Powder technology	
Thermal stability, Deformation effects		Modeling of porosity during spray forming: I. Effects of processing parameters.	1085-1096B
Processing-property-microstructure relationships in TiAl-based alloys.	919-925A	Modeling of porosity during spray forming: II. Effects of atomization gas chemistry and alloy compositions.	1097-1106B
Thermal stability, Processing effects		Tin base alloys, Thermal properties	
Grain growth of nanocrystalline cryomilled Fe-Al powders.	2469-2475A	Determination of the melting and solidification characteristics of solders using differential scanning calorimetry.	1965-1972A
Thermal stresses, Temperature effects		Titanates, Coatings	
Dependence of thermal residual stress on temperature in a SiC particle-reinforced 6061 Al alloy.	2001-2009A	Perovskite phase lead zirconate titanate thin film deposition on $PI/SiO_2/Si$ substrate at low temperature.	907-909A
Thermodynamics		Titanium, Alloying additive	
Thermodynamics of chromium oxides in $CaO-SiO_2-CaF_2$ slag.	131-136B	Ternary alloying study of $MoSi_2$.	119-129A
Thermodynamic properties of the Fe-Cr-P liquid solution.	155-161B	Titanium, Alloying elements	
Thermodynamics of the Fe-Nb-C-N system and the solubility of niobium carbonitrides in austenite.	163-176B	Ir-base refractory superalloys for ultra-high temperatures.	537-549A
Thermodynamic estimation on the reduction behavior of iron-chromium ore with carbon.	351-360B		

An investigation of the fracture and fatigue crack growth behavior of forged damage-tolerant niobium aluminide intermetallics.	2361-2374A	Quantitative analysis on boundary sliding and its accommodation mode during superplastic deformation of two-phase Ti-6Al-4V alloy.	217-226A
Titanium, Binary systems		Effect of phase morphology on fatigue crack growth behavior of α - β -titanium alloy—a crack closure rationale.	245-261A
Assessment of the Fe-Ti system.	361-370B	Tensile properties and fracture toughness of a Ti-45Al-1.6Mn alloy at loading velocities of up to 12 m/s.	263-277A
Computer simulation and experimental investigation of the spinodal decomposition in the β Ti-Cr binary alloy system.	739-749A	Hydrogen uptake in titanium aluminides covered with oxide layers.	307-314A
Titanium, Brazing		Microstructure and creep behavior of an orthorhombic Ti-25Al-17Nb-1Mo alloy.	559-564A
A novel approach for predicting the tensile strength of brazed joints.	587-592A	Relationship between fracture toughness and crack extension resistance curves (R curves) for Ti-6Al-4V alloys.	781-789A
Titanium, Coating		Coherency stresses in lamellar Ti-Al.	937-942A
Electrochemical characterization of copper deposited on plasma and thermally modified titanium surfaces.	749-754B	Atomistic simulation of fracture in TiAl.	951-955A
Titanium, Coatings		Finite element analysis of cavitating facet interaction in a fully lamellar titanium aluminide alloy under creep conditions.	957-964A
Titanium preconditioning of Al_2O_3 for liquid-state processing of Al-Al ₂ O ₃ composite materials.	327-337A	Microstructural development and creep deformation in equiaxed γ , γ - α_2 , and γ - α_2 +B2 titanium aluminides.	965-978A
Titanium, Extraction		High-temperature deformation behavior of the intermetallic Ti-47 at.% Al-3 at.% Cr alloy.	1425-1430A
Electrochemical determination of Gibbs energy of formation of NiTiO_3 (ilmenite).	31-38B	The effect of density anisotropy on the yielding and flow behavior of partially consolidated powder compacts.	1471-1475A
Titanium powder production by TiCl_4 gas injection into magnesium through molten salts.	1167-1174B	Microstructural evaluation of Ti-6-22-22 alloy.	1585-1592A
Carbochlorination kinetics of titanium dioxide with carbon and carbon monoxide as reductant.	1297-1307B	The Knoop-hardness yield locus of an orthorhombic titanium aluminide alloy.	1763-1765A
Titanium, Mechanical properties		Intergranular fracture of gamma titanium aluminides under hot working conditions.	1991-1999A
Cyclic deformation behavior of high-purity titanium single crystals. I. Orientation dependence of stress-strain response.	507-512A	Effect of B on the microstructure and mechanical properties of mechanically milled TiAl alloys.	2273-2283A
Grain boundary cracking.	509-518B	Thermomechanical fatigue behavior of the high-temperature titanium alloy IMI 834.	2995-3004A
Cyclic deformation behavior of high-purity titanium single crystals. II. Microstructure and mechanism.	513-518A	Titanium base alloys, Metal working	
Damage process in commercially pure α -titanium alloy without (Ti40) and with (Ti40-H) hydrides.	1615-1628A	An x-ray Fourier line shape analysis in cold-worked hexagonal titanium base alloys.	2639-2642A
Titanium, Microstructure		Titanium base alloys, Microstructure	
On the relation between the number-weighted and volume-weighted grain volume distribution parameters.	3081-3086A	Changes in microstructure during primary creep of a Ti-47Al-2Nb-1Mn-0.5W-0.5Mo-0.2Si alloy.	89-98A
Titanium, Quaternary systems		Microstructural evolution during creep of single-phase gamma TiAl.	99-104A
Assessment of the Fe-Ti-C system, calculation of the Fe-Ti-N system, and prediction of the solubility limit of Ti(C,N) in liquid Fe.	371-384B	Development of ultrafine lamellar structures in two-phase γ -TiAl alloys.	105-117A
Titanium, Solubility		Processing-property-microstructure relationships in TiAl-based alloys.	919-925A
Thermodynamics of yttrium and oxygen in molten Ti, Ti_3Al , and TiAl.	1037-1042B	Nanometer-scale, fully lamellar microstructure in an aged TiAl-based alloy.	2679-2685A
Titanium, Ternary systems		Titanium base alloys, Oxidation	
High-temperature phase equilibria in the Al-rich corner of the Al-Ti-C system.	1341-1345A	Oxidation protection of Ti-aluminide orthorhombic alloys: an engineered multilayer approach.	1279-1288A
Atomic arrangement and the formation of partially coherent interfaces in the Ti-V-N system.	2049-2058A	Titanium base alloys, Phase transformations	
Titanium, Welding		Phase transformation behavior of gamma titanium aluminide alloys during supertransus heat treatment.	7-18A
Spatially resolved x-ray diffraction phase mapping and $\alpha \rightarrow \beta \rightarrow \alpha$ transformation kinetics in the heat-affected zone of commercially pure titanium arc welds.	2761-2773A	Microstructure evolution through the $\alpha \rightarrow \gamma$ phase transformation in a Ti-48 at.% Al alloy.	19-26A
Titanium base alloys, Composite materials		Phase transformations in Ti-6.8Mo-4.5Fe-1.5Al.	2455-2467A
Microstructural characterization of the matrix in the SiC fiber-reinforced Ti-15-3 composite.	693-696A	Titanium base alloys, Phases (state of matter)	
Thermomechanical behavior of TiNi shape memory alloy fiber reinforced 6061 aluminum matrix composite.	1127-1135A	Computer simulation and experimental investigation of the spinodal decomposition in the β Ti-Cr binary alloy system.	739-749A
Experimental approaches to simulating interfacial reactions in metal matrix composites.	1347-1355A	Titanium base alloys, Powder technology	
Microstructure and mechanical behavior of reaction hot-pressed titanium silicide and titanium silicide-based alloys and composites.	1629-1641A	Liquid flow on a rotating disk prior to centrifugal atomization and spray deposition.	1357-1369B
Elevated-temperature oxidation behavior of titanium silicide and titanium silicide-based alloy and composite.	1665-1675A	Titanium base alloys, Solubility	
Dry sliding wear of a $\text{Ti}_{50}\text{Ni}_{25}\text{Cu}_{25}$ particulate-reinforced aluminum matrix composite.	1741-1747A	Thermodynamics of yttrium and oxygen in molten Ti, Ti_3Al , and TiAl.	1037-1042B
Interface-controlled fatigue cracking of SCS-6/Ti-22Al-23Nb "orthorhombic" titanium aluminide composite.	2737-2746A	Titanium base alloys, Synthesis	
Titanium base alloys, Crystal growth		Synthesis of ultrafine particles of intermetallic compounds by the vapor-phase magnesium reduction of chloride mixtures. I. Titanium aluminides.	457-464B
Growth of semicoherent Ti/Fe nanoparticles in β -Ti matrix in the $\text{Ti}_{73}\text{Fe}_{27}$ rapidly quenched ribbon.	131-137A	Titanium base alloys, Welding	
Titanium base alloys, Heat treatment		Autogenous gas tungsten arc weldability of cast alloy Ti-48Al-2Cr-2Nb (at.%) versus extruded alloy Ti-46Al-2Cr-2Nb-0.9Mo (at.%).	927-935A
Bulk titanium-rich alloys containing nanoscale disordered regions.	1821-1824A	Titanium carbide, Composite materials	
Titanium base alloys, Mechanical properties		Transformation superplasticity of iron and Fe/TiC metal matrix composites.	565-575A
Supertransus processing of TiAl-based alloys.	27-36A	Al-TiC composites in situ-processed by ingot metallurgy and rapid solidification technology. I. Microstructural evolution.	875-891A
The role of grain size and selected microstructural parameters in strengthening fully lamellar TiAl alloys.	37-47A	Al-TiC composites in situ-processed by ingot metallurgy and rapid solidification technology. II. Mechanical behavior.	893-902A
Physical constants, deformation twinning, and microcracking of titanium aluminides.	49-63A	Formation of TiN/TiC-Fe composites from ilmenite (FeTiO_3) concentrate.	1077-1083B
Tension and compression testing of single-crystalline gamma Ti-55.5% Al.	65-71A	A study on carbothermic reduction of ilmenite ore in a plasma reactor.	1175-1180B
Fundamental aspects of fatigue and fracture in a TiAl sheet alloy.	73-87A	High-temperature phase equilibria in the Al-rich corner of the Al-Ti-C system.	1341-1345A

Microstructure and mechanical behavior of reaction hot-pressed titanium silicide and titanium silicide-based alloys and composites.	1629-1641A	Titanium compounds, Synthesis	Synthesis of ultrafine particles of intermetallic compounds by the vapor-phase magnesium reduction of chloride mixtures.
Elevated-temperature oxidation behavior of titanium silicide and titanium silicide-based alloy and composite.	1665-1675A	I. Titanium aluminides.	1. Titanium aluminides.
Titanium compounds, Coatings		Titanium compounds, Welding	Titanium compounds, Welding
A porous titanium diboride composite cathode coating for Hall-Héroult cells. I. Thin coatings.	59-67B	Autogenous gas tungsten arc weldability of cast alloy Ti-48Al-2Cr-2Nb (at.%) versus extruded alloy Ti-46Al-2Cr-2Nb-0.9Mo (at.%).	Autogenous gas tungsten arc weldability of cast alloy Ti-48Al-2Cr-2Nb (at.%) versus extruded alloy Ti-46Al-2Cr-2Nb-0.9Mo (at.%).
Titanium preconditioning of Al_2O_3 for liquid-state processing of $\text{Al}-\text{Al}_2\text{O}_3$ composite materials.	327-337A	The mechanism of formation of TiB_2 particulates prepared by <i>in situ</i> reaction in molten aluminum.	927-935A
Titanium compounds, Composite materials		Combustion characteristics of the $\text{Ni}_3\text{Ti}-\text{TiB}_2$ intermetallic matrix composites.	635-640B
Combustion characteristics of the $\text{Ni}_3\text{Ti}-\text{TiB}_2$ intermetallic matrix composites.	867-875B	The effect of gravity on the combustion synthesis of metal-ceramic composites.	867-875B
The effect of gravity on the combustion synthesis of metal-ceramic composites.	889-897B	The effect of gravity on the combustion synthesis of metal-ceramic composites.	889-897B
Thermomechanical behavior of TiNi shape memory alloy fiber reinforced 6061 aluminum matrix composite.	1127-1135A	Titanium dioxide, Coatings	Titanium dioxide, Coatings
Experimental approaches to simulating interfacial reactions in metal matrix composites.	1347-1355A	Electrochemical characterization of copper deposited on plasma and thermally modified titanium surfaces.	749-754B
Microstructure and mechanical behavior of reaction hot-pressed titanium silicide and titanium silicide-based alloys and composites.	1629-1641A	Titanium nitride, Composite materials	Titanium nitride, Composite materials
Elevated-temperature oxidation behavior of titanium silicide and titanium silicide-based alloy and composite.	1665-1675A	Formation of $\text{TiN}/\text{TiC}-\text{Fe}$ composites from ilmenite (FeTiO_3) concentrate.	1077-1083B
Titanium compounds, Crystal growth		Tool life, Microstructural effects	Tool life, Microstructural effects
Phase transformation behavior of gamma titanium aluminide alloys during supertransus heat treatment.	7-18A	Cutting performance and microstructure of high speed steels: contributions of matrix strengthening and undissolved carbides.	205-216A
Microstructure evolution through the $\alpha \rightarrow \gamma$ phase transformation in a Ti-48 at.% Al alloy.	19-26A	Tool steels, Coating	Tool steels, Coating
Growth of semicoherent TiFe nanoparticles in β -Ti matrix in the $\text{Ti}_{73}\text{Fe}_{27}$ rapidly quenched ribbon.	131-137A	On optimization of the powder plasma arc surfacing process.	929-931B
Titanium compounds, Mechanical properties		Torsion	Torsion
Supertransus processing of TiAl-based alloys.	27-36A	Torsion textures produced by dynamic recrystallization in α -iron and two interstitial-free steels.	447-462A
The role of grain size and selected microstructural parameters in strengthening fully lamellar TiAl alloys.	37-47A	Microstructures and properties of nanocomposites obtained through SPTS consolidation of powders.	2253-2260A
Physical constants, deformation twinning, and microcracking of titanium aluminides.	49-63A	Torsion, Temperature effects	Torsion, Temperature effects
Tension and compression testing of single-crystalline gamma Ti-55.5% Al.	65-71A	Effect of test temperature on the dynamic torsional deformation behavior of two aluminum-lithium alloys.	469-476A
Fundamental aspects of fatigue and fracture in a TiAl sheet alloy.	73-87A	Toughness, Composition effects	Toughness, Composition effects
Tensile properties and fracture toughness of a Ti-45Al-1.6Mn alloy at loading velocities of up to 12 m/s.	263-277A	An investigation of toughening in NiAl composites reinforced with yttria-partially stabilized zirconia particles.	493-505A
Hydrogen uptake in titanium aluminides covered with oxide layers.	307-314A	Transgranular fracture, Low temperature effects	Transgranular fracture, Low temperature effects
Coherency stresses in lamellar Ti-Al.	937-942A	A study on fractography in the low-temperature brittle fracture of an 18Cr-18Mn-0.7N austenitic steel.	791-798A
Effect of deformation temperature on fatigue and fracture behavior in TiAl polysynthetically twinned crystals.	943-950A	Transition joints, Crystal growth	Transition joints, Crystal growth
Effect of deformation temperature on fatigue and fracture behavior in TiAl polysynthetically twinned crystals.	943-950A	Isothermal solidification kinetics of diffusion brazing.	315-325A
Atomistic simulation of fracture in TiAl.	951-955A	Transition joints, Diffusion	Transition joints, Diffusion
Finite element analysis of cavitating facet interaction in a fully lamellar titanium aluminide alloy under creep conditions.	957-964A	A diffusion-kinetic model for predicting solder/conductor interactions in high density interconnections.	2951-2956A
Microstructural development and creep deformation in equiaxed γ , $\gamma\text{-}\alpha_2$, and $\gamma\text{-}\alpha_2\text{+B2}$ titanium aluminides.	965-978A	Transition joints, Mechanical properties	Transition joints, Mechanical properties
High-temperature deformation behavior of the intermetallic Ti-47 at.% Al-3 at.% Cr alloy.	1425-1430A	A study of the structure of dissimilar submerged arc welds.	823-832A
The Knoop-hardness yield locus of an orthorhombic titanium aluminide alloy.	1763-1765A	TRIP steels, Mechanical properties	TRIP steels, Mechanical properties
Intergranular fracture of gamma titanium aluminides under hot working conditions.	1991-1999A	Enhancement of the mechanical properties of a low-carbon, low-silicon steel by formation of a multiphased microstructure containing retained austenite.	2383-2393A
Effect of B on the microstructure and mechanical properties of mechanically milled TiAl alloys.	2273-2283A	TTT curves	TTT curves
Titanium compounds, Microstructure		Transitions in carbide morphology in a ternary Fe-C-W steel. Grain growth and carbide precipitation in superalloy, UDIMET 520.	2087-2100A
Changes in microstructure during primary creep of a Ti-47Al-2Nb-1Mn-0.5W-0.5Mo-0.2Si alloy.	89-98A	Tubes, Mechanical properties	Tubes, Mechanical properties
Microstructural evolution during creep of single-phase gamma TiAl.	99-104A	Behavior and rupture of hydrided Zircaloy-4 tubes and sheets.	1643-1651A
Development of ultrafine lamellar structures in two-phase γ -TiAl alloys.	105-117A	Tungstates, Reduction (chemical)	Tungstates, Reduction (chemical)
Processing-property-microstructure relationships in TiAl-based alloys.	919-925A	Communication: Reduction of FeWO_4 - NiWO_4 solid solutions by hydrogen gas.	1136-1139B
Nanometer-scale, fully lamellar microstructure in an aged TiAl-based alloy.	2679-2685A	Tungsten, Diffusion	Tungsten, Diffusion
Titanium compounds, Oxidation		Interfacial reaction-controlled reprecipitation of W atoms in liquid matrix phase during the sintering of W-8 wt.% Mo-7% Ni-3% Fe.	2885-2892A
Oxidation protection of Ti-aluminide orthorhombic alloys: an engineered multilayer approach.	1279-1288A	Molybdenum-tungsten interdiffusion and the influence on potassium bubbles in tungsten lamp wire.	2933-2939A
Titanium compounds, Phase transformations		Tungsten, Mechanical properties	Tungsten, Mechanical properties
Effect of thermal cycling on the R-phase and martensitic transformations in a Ti-rich NiTi alloy.	1175-1180A	Grain-shape parameters for high-temperature creep resistance in powder metallurgy tungsten fine wires.	519-526A
Titanium compounds, Reactions (chemical)		Tungsten, Powder technology	Tungsten, Powder technology
Effect of oxidation treatment and surface filming on hydrogen degassing from TiH_2 .	1315-1319B	An examination of the interparticle contact area during sintering of W-0.3 wt.% Co.	1309-1317A
Titanium compounds, Solubility		Tungsten base alloys, Mechanical properties	Tungsten base alloys, Mechanical properties
Thermodynamics of yttrium and oxygen in molten Ti, Ti_3Al , and TiAl.	1037-1042B	Effect of tungsten particle shape on dynamic deformation and fracture behavior of tungsten heavy alloys.	1057-1069A
Tungsten base alloys, Phase transformations		Interfacial reaction-controlled reprecipitation of W atoms in liquid matrix phase during the sintering of W-8 wt.% Mo-7% Ni-3% Fe.	2885-2892A

Tungsten base alloys, Powder technology		Strain-induced grain evolution in polycrystalline copper during warm deformation.	2957-2965A
Finite element modeling of distortion during liquid phase sintering.	659-664A		
Microstructural effects on distortion and solid-liquid segregation during liquid phase sintering under microgravity conditions.	857-866B	Gaseous hydrogen embrittlement of a hydrided zirconium alloy.	1047-1056A
An examination of the interparticle contact area during sintering of W-0.3 wt % Co.	1309-1317A		
The effect of tungsten particle size on the processing and properties of infiltrated W-Cu compacts.	1509-1516A	Reactive phosphide inclusions in commercial ferrosilicon. Steady-state studies of the reactions of H ₂ O-CO and CO ₂ -H ₂ mixtures with liquid iron.	325-329B 829-836B
Shape distortion in liquid-phase-sintered tungsten heavy alloys.	2631-2638A		
Tungsten steels, Phase transformations		Wear rate	
Transitions in carbide morphology in a ternary Fe-C-W steel.	2087-2100A	Sliding wear response of a zinc-based alloy compared to a copper-based alloy.	1245-1255A
Tungsten steels, Phases (state of matter)		Wear resistance, Composition effects	
Microstructural characterization of 5 to 9% Cr-2% W-V-Ta martensitic steels.	1551-1558A	Dry sliding wear of a Ti ₅₀ Ni ₂₅ Cu ₂₅ particulate-reinforced aluminum matrix composite.	1741-1747A
Turbine blades, Mechanical properties		Sliding wear behavior of some Al-Si alloys: role of shape and size of Si particles and test conditions.	2747-2752A
Parametric analysis of monocrystalline CMSX-4 creep and rupture data.	2645-2647A	Weibull modulus, Corrosion effects	
Turbine disks, Microstructure		Effect of pitting corrosion in NaCl solutions on the statistics of fracture of beryllium.	2753-2760A
Grain boundary segregation of boron in Inconel 718.	1947-1954A	Weld metal, Phase transformations	
Turbulence		A combined solubility product/new PHACOMP approach for estimating temperatures of secondary solidification reactions in superalloy weld metals containing Nb and C.	1449-1456A
Modeling mean flow and turbulence characteristics in gas-agitated bath with top layer.	211-222B	Weldability, Alloying effects	
Turbulent flow		Autogenous gas tungsten arc weldability of cast alloy Ti-48Al-2Cr-2Nb (at.%) versus extruded alloy Ti-46Al-2Cr-2Nb-0.9Mo (at.%).	927-935A
Modeling mean flow and turbulence characteristics in gas-agitated bath with top layer.	211-222B	Weldability, Microstructural effects	
Numerical investigation of the free surface in a continuous steel casting mold model.	1117-1126B	Improving the weldability and service performance of nickel- and iron-based superalloys by grain boundary engineering.	3069-3079A
Twinning		Welded joints, Diffusion	
Tensile properties and fracture toughness of a Ti-45Al-1.6Mn alloy at loading velocities of up to 12 m/s.	263-277A	Carbon migration in 5Cr-0.5Mo/21Cr-12Ni dissimilar metal welds.	3037-3046A
Microstructural development and creep deformation in equiaxed γ , γ - α_2 , and γ - α_2 +B2 titanium aluminides.	965-978A	Welded joints, Mechanical properties	
Twinning, Alloying effects		Brittle fracture initiation associated with the strain localization in a heat-affected zone of a low carbon steel.	551-558A
Microstructure and properties of Cu-C pseudoalloy films prepared by sputter deposition.	647-658A	Autogenous gas tungsten arc weldability of cast alloy Ti-48Al-2Cr-2Nb (at.%) versus extruded alloy Ti-46Al-2Cr-2Nb-0.9Mo (at.%).	927-935A
Twinning, Deformation effects		Influence of residual stresses and loading frequencies on corrosion fatigue crack growth behavior of weldments.	1289-1298A
Physical constants, deformation twinning, and microcracking of titanium aluminides.	49-63A	Properties of friction-stir-welded 7075 T651 aluminum.	1955-1964A
Ultrasonic testing		Charpy V-notch properties and microstructures of narrow gap ferritic welds of a quenched and tempered steel plate.	2775-2784A
Noncontact ultrasonic spectroscopy on deforming polycrystalline copper: dislocation damping and acoustoelasticity.	2987-2993A	Improving the weldability and service performance of nickel- and iron-based superalloys by grain boundary engineering.	3069-3079A
Vacuum degassing		Welded joints, Oxidation	
Deoxidation of molten copper with a rotating graphite cylinder.	739-747B	Role of microstructural degradation in the heat-affected zone of 2.25Cr-1Mo steel weldments on subscale features during steam oxidation and their role in weld failures.	577-586A
Vanadium, Alloying additive		Welded joints, Phase transformations	
Ternary alloying study of MoSi ₂ .	119-129A	A combined solubility product/new PHACOMP approach for estimating temperatures of secondary solidification reactions in superalloy weld metals containing Nb and C.	1449-1456A
Vanadium, Alloying elements		Spatially resolved x-ray diffraction phase mapping and $\alpha \rightarrow \beta \rightarrow \gamma$ transformation kinetics in the heat-affected zone of commercially pure titanium arc welds.	2761-2773A
Ir-base refractory superalloys for ultra-high temperatures.	537-549A	Weldments, Mechanical properties	
Vanadium, Ternary systems		Brittle fracture initiation associated with the strain localization in a heat-affected zone of a low carbon steel.	551-558A
Atomic arrangement and the formation of partially coherent interfaces in the Ti-V-N system.	2049-2058A	Weldments, Oxidation	
Vapors, Solubility		Role of microstructural degradation in the heat-affected zone of 2.25Cr-1Mo steel weldments on subscale features during steam oxidation and their role in weld failures.	577-586A
Equilibrium of calcium vapor with liquid iron and the interaction of third elements.	415-420B	Wettability	
Viscosity		Wettability, surface tension, and reactivity of the molten manganese/zirconia-yttria ceramic system.	1121-1125A
Review and modeling of viscosity of silicate melts. I. Viscosity of binary and ternary silicates containing CaO, MgO, and MnO.	177-186B	Wetting, Coating effects	
Review and modeling of viscosity of silicate melts. II. Viscosity of melts containing iron oxide in the CaO-MgO-MnO-FeO-Fe ₂ O ₃ -SiO ₂ system.	187-195B	Titanium preconditioning of Al ₂ O ₃ for liquid-state processing of Al-Al ₂ O ₃ composite materials.	327-337A
Viscosity, Temperature effects		Whisker composites, Mechanical properties	
Metastability and thermophysical properties of metallic bulk glass forming alloys.	1829-1835A	Effect of interfacial reaction on bending strength of Al ₁₈ B ₄ O ₃₃ whisker-reinforced aluminum composites.	1517-1524A
Thermodynamic and kinetic properties of amorphous and liquid states.	1837-1843A	White iron, Mechanical properties	
Voids, Deformation effects		Controlled graphitization as a potential option for improving wear resistance of unalloyed white irons.	2147-2159A
Assessment of void growth models from porosity measurements in cold-drawn copper bars.	1895-1909A	Widmanstatten structure	
Voids, Processing effects		The effect of undercooling on the cellular precipitation reaction in Cu-3Ti.	2101-2110A
Transmission electron microscope specimen preparation of Zn powders using the focused ion beam lift-out technique.	2399-2406A		
Volume fraction			
Effect of SiC volume fraction and particle size on the fatigue resistance of a 2080 Al/SiC _p composite.	2843-2854A		
Warm working			
New grain formation during warm deformation of ferritic stainless steel.	161-167A		

Widmanstatten structure, Heating effects	The effect of heat input on the microstructure and properties of nickel aluminum bronze laser clad with a consumable of composition Cu-9.0Al-4.6Ni-3.9Fe-1.2Mn.	1677-1690A	Zinc, Powder technology	Transmission electron microscope specimen preparation of Zn powders using the focused ion beam lift-out technique.	2399-2406A
Wire, Mechanical properties	Grain-shape parameters for high-temperature creep resistance in powder metallurgy tungsten fine wires.	519-526A	Zinc, Reactions (chemical)	The effect of iron oxide as an inhibition layer on iron-zinc reactions during hot-dip galvanizing.	479-484B
Wire drawing	Kinetics of strain aging in drawn pearlitic steels.	1415-1423A	Zinc, Recovering	The acid-base behavior of zinc sulfate electrolytes: the temperature effect.	1157-1166B
X ray diffraction	An x-ray Fourier line shape analysis in cold-worked hexagonal titanium base alloys.	2639-2642A	Zinc, Ternary systems	Discussion of "Uwakweh and Liu's Reply" and Authors' Reply.	2643-2645A
Yield strength	Quantitative analysis on boundary sliding and its accommodation mode during superplastic deformation of two-phase Ti-6Al-4V alloy.	217-226A	Zinc base alloys, Mechanical properties	Sliding wear response of a zinc-based alloy compared to a copper-based alloy.	1245-1255A
	High-temperature deformation of commercial-purity aluminum.	2345-2359A		Superplastic flow and cavitation in Zn-22% Al doped with Cu.	1653-1663A
Yield strength, Composition effects	Thermomechanical behavior of TiNi shape memory alloy fiber reinforced 6061 aluminum matrix composite.	1127-1135A	Zinc base alloys, Microstructure	An observation on microstructure of a casting Zn-40 wt.% Al alloy.	2477-2481A
Yield strength, Deformation effects	Tensile properties and fracture toughness of a Ti-45Al-1.6Mn alloy at loading velocities of up to 12 m/s.	263-277A	Zinc compounds, Phase transformations	Stress-induced martensitic phase transformations in polycrystalline CuZnAl shape memory alloys under different stress states.	765-773A
	Kinetics of strain aging in drawn pearlitic steels.	1415-1423A	Zirconates, Coatings	Perovskite phase lead zirconate titanate thin film deposition on Pt/SiO ₂ /Si substrate at low temperature.	907-909A
	Strain-induced grain evolution in polycrystalline copper during warm deformation.	2957-2965A	Zirconium, Alloying additive	Microstructural studies of a Cu-Zn-Al shape-memory alloy with manganese and zirconium addition.	1865-1871A
	Microstructural and mechanical behavior of a duplex stainless steel under hot working conditions.	2975-2986A	Zirconium, Alloying elements	Ir-base refractory superalloys for ultra-high temperatures.	537-549A
Yield strength, Heating effects	Optimization of the strength-fracture toughness relation in particulate-reinforced aluminum composites via control of the matrix microstructure.	2433-2446A	Zirconium, Mechanical properties	Transformation superplasticity of zirconium.	2571-2582A
Yield strength, Microstructural effects	The role of grain size and selected microstructural parameters in strengthening fully lamellar TiAl alloys.	37-47A	Zirconium base alloys, Claddings	Gaseous hydrogen embrittlement of a hydrided zirconium alloy.	1047-1056A
	Transformation during the isothermal deformation of low-carbon Nb-B steels.	1383-1394A	Zirconium base alloys, Mechanical properties	Behavior and rupture of hydrided Zircaloy-4 tubes and sheets. Test environments and mechanical properties of Zr-base bulk amorphous alloys.	1643-1651A
	The effect of density anisotropy on the yielding and flow behavior of partially consolidated powder compacts.	1471-1475A	Zirconium base alloys, Microstructure	Ab initio studies of the electronic structure and energetics of bulk amorphous metals.	1811-1820A
	The relationship between microstructure and the J-R curve.	1917-1922A	Zirconium base alloys, Phase transformations	A correlation method for determination of crystallization mechanism and activation energy of amorphous alloy.	1845-1851A
Yield strength, Processing effects	Effect of B on the microstructure and mechanical properties of mechanically milled TiAl alloys.	2273-2283A	Zirconium base alloys, Thermal properties	Metastability and thermophysical properties of metallic bulk glass forming alloys.	1031-1035B
Yield strength, Temperature effects	Temperature-dependent void-sheet fracture in Al-Cu-Mg-Ag-Zr.	1599-1613A	Zirconium base alloys, Surface properties	Surface tension measurements on liquid metals in microgravity.	1829-1835A
	Microstructure and mechanical behavior of reaction hot-pressed titanium silicide and titanium silicide-based alloys and composites.	1629-1641A	Zirconium compounds, Composite materials	An investigation of toughening in NiAl composites reinforced with yttria-partially stabilized zirconia particles.	493-505A
Yttrium, Alloying additive	Effect of Y, Sr, and Nd additives on the microstructure and microfracture mechanism of squeeze-cast AZ91-X magnesium alloys.	1221-1235A	Zirconium dioxide, Composite materials	Particle engulfment and pushing by solidifying interfaces. I. Ground experiments.	1691-1696A
Yttrium, Solubility	Thermodynamics of yttrium and oxygen in molten Ti, Ti ₃ Al, and TiAl.	1037-1042B		Particle engulfment and pushing by solidifying interfaces. II. Microgravity experiments and theoretical analysis.	1697-1706A
Zinc, Coatings	Solidification and spangle formation of hot-dip-galvanized zinc coatings.	631-646A			
Zinc, Composite materials	Particle engulfment and pushing by solidifying interfaces. I. Ground experiments.	1691-1696A			

